



Blue Lake City Council Agenda

Tuesday, November 19, 2013

Regular Meeting @ 7:00 p.m. to 9:30 p.m.

Community Center – 111 Greenwood

(Skinner Store Building behind City Hall)

Unless Otherwise Noted, All Items on the Agenda Are Subject to Council Action.

1. Flag Salute/Establish a Quorum of the Council
2. Motion to Approve Agenda
3. Public Input – *The Public is invited to present petitions, make announcements, or provide other information to the City Council that is relevant to the scope of authority of the City of Blue Lake that is not on the Agenda. The Council may provide up to 15 minutes for this public input session. To assure that each individual presentation is heard, the Council may uniformly impose time limitations of 3 minutes to each individual presentation. The public will be given the opportunity to address items that are on the agenda at the time the Council takes up each specific agenda item*
4. Sewer Capacity Analysis with Mitigation – Mad River Brewery (Presentation by City Engineer)
5. Council Approval to Submit CDBG Program Income-Funded Waiver (Action)
6. Michael Fields, Dell Arte: Art Place Activities and Thoughts (Presentation)
7. Award by CWEA to City of Blue Lake, “Waste Water Plant of the Year” (Announcement)
8. Sherman Schapiro, Blue Lake Resident, 110 Greenwood – SHN Greenwood Road Geometric Assessment Report of Findings Re-Visited with Recommended Changes
9. Councilmember Manzanita: Legislative Matters – (a.) Proposed Humboldt Waste Management Authority Goals (Action) (b.) Report from California League of Cities Webinar (Discussion) (c) Expand Business in Business Park (Discussion)
10. Grant Opportunity – Resurfacing of Railroad Avenue Between E and G Streets
11. Consent Agenda
 - a. October 2013 Disbursements/Warrants
12. Reports of Council and Staff
13. Motion to Adopt Minutes from
 - a. November 5, 2013
 - b. November 7, 2013

14. Future Agenda Items

15. Correspondence

Note: A Motion to Enter Into Closed Session to Discuss the Following Subjects Appropriately

Closed Session: Pursuant to Government Code Section 54956.8 – Conference with Negotiator Regarding Renewal of Blue Lake Power Lease, 200 Taylor Way
Agency Negotiator: City Manager John Berchtold
Negotiating Parties: City of Blue Lake and Blue Lake Power, LLC
Under Negotiation: Lease Term

Note: Upon Conclusion of the Closed Session, the Council Shall Report Any Action Taken in Closed Session (Government Code 54957.1)

16. Motion to Adjourn

A request for disability-related modification or accommodation, including auxiliary aid or services, may be made by a person with a disability who requires a modification or accommodation in order to participate in the public meeting, by contacting City Manager John Berchtold at least 24 hours prior to the commencement of the meeting.

To: Mayor and Councilmembers
From: John Berchtold, City Manager
Date: November 13, 2013
Subject: Aeration Analysis – Blue Lake WWTF – Impact of Brewery Effluent

Please find enclosed the technical report prepared by SHN relative to the Brewery's request for additional sewer capacity. City Engineer Foget will provide an Executive Summary of this report.

Please pay particular attention to the recommendations found on pages 5 and 6. Two (2) additional aerators, installed after placement of the baffle curtain, will provide the additional capacity requested by the Brewery. In fact, oxygen generation exceeds oxygen generation by 27%. This then becomes the basis of a cost share by the City for 27% of \$77,000.00 or \$20,790.00. Funding could come from Fund 72, Capital Improvement/Replacement. It only makes sense to go with two (2) additional aerators of 5hp each instead of one 7.5 hp aerator. This is a unique opportunity to maximize capacity.

Staff and the Brewery are working thru the Report and I am pleased to share that there is fundamental agreement.

The purpose of the Engineer's Report is to keep City Council up to date. It is not a negotiating session between the Brewery and City Council. No action is required at this time; however, your comments are welcome on the upsizing of aerators necessary. Due to the technical nature of this Report, I would be pleased to meet with any Councilperson on a one to one basis.



Technical Memorandum

Reference:	013003.701
Date:	November 7, 2013
To:	John Berchtold, City Manager
Copy to:	Neil Carnam, Mad River Brewery
From:	Steve Donovan, Mike Foget, Susan Foreman
Subject:	Aeration Analysis Blue Lake WWTF, Impact of Brewery Effluent

The Blue Lake Wastewater Treatment Facility (BLWWTF) is a facultative lagoon system with supplemental aeration in the first cell. The results of a local limits analysis recently completed for the facility by SHN indicate the treatment system is near capacity. The Mad River Brewery (MRB), a current industrial client, has applied to the City for an increase in its permitted discharge. SHN has been asked to prepare an analysis of the impact from an increase in MRB's discharge of biological oxygen demand (BOD) on the level of treatment provided. It is anticipated that increasing aeration capacity would increase treatment capacity sufficiently to allow the increased load from the MRB. This memorandum addressed the aeration requirement, required upgrades, and cost share with MRB.

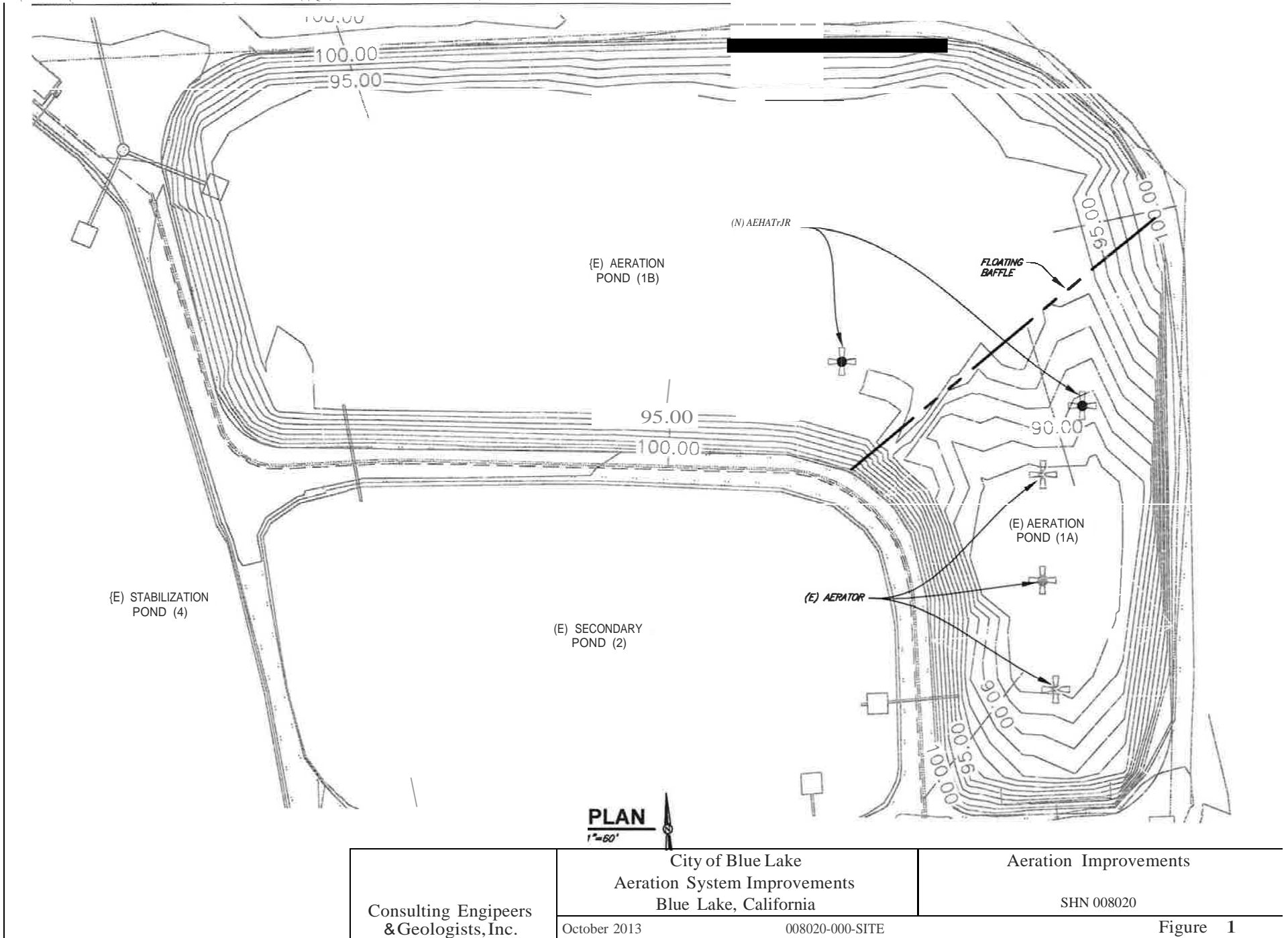
Analysis

Current biological oxygen demand (BOD) loadings were obtained from the City's Annual Self-monitoring Reports for 2011 and 2012 (see Attachment 1). From these reports, it was determined that the Average Dry Weather Flow (May through October) and average BOD are 0.14 million gallons per day (MGD) and 231 milligrams per liter (mg/l), respectively. Based on this influent flow and BOD concentration the average daily BOD loading on the facility is estimated at 270 pounds per day (ppd). The loading includes existing contributions from the brewery.

The brewery has requested a 90 ppd increase in BOD loading, resulting in a proportional increase in dissolved oxygen (DO) demand on the lagoon system. The analysis assumes that the increased loading will be discharged during a minimum 12-hour period and that the discharge will be pH neutral. MRB has indicated that the increased brewery waste load would not contribute significantly to the ammonia nitrogen loading which has been assumed to average 35 mg/l for all wastewater contributions.

Aeration requirements were evaluated for each basin in the facility. The analysis assumes that Pond A is divided into two sections, 1A and 1B, by a floating baffle curtain that is scheduled to be installed within the next 12 months (Figure 1).

**Civil • Environmental • Geotechnical • Surveying
Construction Monitoring • Materials Testing
Economic Development • Planning & Permitting**



Dissolved Oxygen Demand

An analysis of the increase in oxygen demand requires calculation of the Actual Oxygen Required (AOR) and the equivalent oxygen transfer rate at standard conditions (the Standard Oxygen Requirement or SOR).

To estimate AOR, the following assumptions were made:

- 2.5 lbs O₂/lb. BOD removed
- 4.6 lbs O₂/lb NH₃-N removed

The SOR is the amount of oxygen that must be supplied in order to provide the oxygen required. Oxygen transfer is driven by the difference between DO saturation concentration and the actual concentration of DO in the wastewater. The SOR depends upon the oxygen transfer efficiency. SOR is calculated using the following equation:

$$SOR = \frac{(AOR) * (C_{S20})}{(\alpha) * \{\beta * C_S - C_W\} * (1.024)^{T-20}}$$

Where:

$$\begin{array}{ll} \alpha = & 0.80 & C_S = & 9.37 \\ \beta = & 0.95 & C_W = & 2.0 \\ T = & 1.03 & C_{S20} = & 9.09 \end{array}$$

α	Oxygen transfer wastewater, oxygen transfer tapwater
β	Wastewater saturation value, tap water saturation value
T	Effect of temperature on oxygen saturation value
Ω	effect of pressure on oxygen saturation value
C_S	dissolved oxygen concentration at saturation in clean water
C_W	minimum dissolved oxygen concentration in aeration basin
C_{S20}	concentration at saturation standard conditions of pressure and temperature

Oxygen requirements were analyzed for each basin. To determine the AOR and the SOR in each basin, it is necessary to first estimate the amount of BOD reduction occurring in that basin.

BOD Reduction

BOD reduction in each basin was estimated using a first order removal rate model developed by Wehner and Wilhelm for flow through conditions for reactors exhibiting plug flow and complete mix¹ conditions. First order removal rates appropriate for facultative and partially mixed aerated lagoons were selected for the Blue Lake Wastewater Treatment Facility (BLWWTF) and corrected for temperature. The detention time, reaction rates, and resulting BOD reduction for each pond for summer and winter seasons are summarized in Table 1 on the following page.

Table 1 BOD Reduction Blue Lake Wastewater Treatment Facility, Blue Lake, CA							
Basin	Volume (MG ²)	Summer (0.14 MGD) ¹			Winter (0.40 MGD)		
		DT ³ (days)	(K _s t) ⁴	Removal (%)	DT (days)	K _w t ⁵	Removal (%)
1A	0.91	6.51	1.3	62	2.28	0.36	40
1B	2.25	16.00	3.2	83	5.63	0.90	52
2	1.35	9.61	1.9	70	3.36	0.53	40
3	1.28	9.15	1.83	70	3.20	0.51	40
4	2.66	19.0	3.8	88	6.65	1.00	45
1. MGD: million gallons per day 2. MG: million gallons 3. DT: detention time 4. k _s : First order reaction rate constant at 16 Degrees C = 0.20 5. k _w : First order reaction rate constant at 12 Degrees C = 0.16							

NH₃-N Reduction

The oxygen demand exerted by the oxidation of Ammonia Nitrogen (NH₃-N) was included in the analysis of oxygen requirements by assuming 4.6 lbs of oxygen required for each 1.0 lb. of NH₃-N removed (4.6 lbs O₂ per 1.0 lb of NH₃-N is based on the stoichiometry of nitrification). This assumption is conservative because NH₃-N removal in a lagoon system also includes gaseous ammonia stripping and nitrogen assimilation in plant mass.

The rate of removal was estimated using an empirically derived first order equation which estimates the rate of nitrification for various lagoon detention times and temperatures.²

Supplemental Aeration Requirement

Estimated power requirements are based on the calculated SOR (lb. O₂/day) divided by the standard aeration efficiency (SAE) of the aerators (lb O₂/HP-hr). Typical surface axial aerators have SAEs which range from 2.0-3.5 lbs O₂/hr³. The recently installed aerators at BLWWTF and any new aerators were assumed to have an SAE of 2.5 lbs O₂/hr.

The aeration requirements summarized in the Table 2 (on the following page) are based on simulations of summer conditions (May- October) in the lagoon system. Summer conditions were determined to be the limiting condition for aeration requirements in Basin 1A and 1B because higher BOD loading requires increasing the amount of BOD oxidized in these basins.

² 1983, EPA Technical Report, Design Manual Municipal Wastewater Stabilization Ponds

³ 1988, Water Pollution Control Federation, Aeration: Manual of Practice FD-13

Table 2 Aeration Requirements (SOR) Blue Lake Wastewater Treatment Facility, Blue Lake, CA				
	Existing Conditions		With Proposed Brewery Loading	
	lbs. O₂/day	HP	lbs O₂/day	HP
1A	754	12.6	1,070	17.8
1B	425	7.1	550	9.2
Total	1,179	19.7	1,620	27

Conclusion

The BLWWTF has three, 5 HP aerators in Basin 1A which supply more than the SOR required for existing conditions. Basin, 1B operates as a facultative lagoon with a much lower loading rate than Pond 1A. Performance data for existing conditions suggests that excess oxygen supplied in Pond 1A and oxygen transfer (wind and waves) occurring at the surface through natural processes provide sufficient oxygen to achieve the required effluent quality. However, with the addition of the new brewery loading, the existing aeration equipment and natural aeration will be insufficient to treat the projected loading without affecting effluent quality.

The increased oxygen demand is estimated to require an additional 5.2 HP and 2.1 HP in 1A and 1B respectively. Because of the higher loadings exerted on 1A and the first part of Basin 1B additional supplemental aeration is recommended. The total demand in 1A and 1B with the new brewery loading translates to a total aeration requirement of 27 HP.

Recommendations

Allowing an increase in MRB loading will require increasing the total aeration capacity of the BLWWTF by 440 lbs-O₂/day. This amount of air can be supplied by installing aeration equipment to provide a minimum of 7.3 HP. The analysis also shows that the system has an existing oxygen deficit of 282 lbs-O₂/day (equal to 4.7 HP) when natural aeration is discounted from the facility.

Existing aeration equipment is comprised of three 5 HP surface aerators. New aeration equipment will need to be located in Pond 1-A and Pond 1B, in areas that are shallower than the location of the current aerators. Scour of the lagoon bottom is a concern and the depth at each new aerator location should be examined more closely. It is also recommended that any new aeration equipment match the type and size of the existing aerators resulting in two 5 HP aerators. Proposed aerator locations are presented on Figure 1. The amount of oxygen supplied by the two aerators will offset the City's reliance on natural aeration by the equivalent of 2.7 HP.

Budgetary cost for purchase and installation of two surface aerators is summarized in Table 3 on the following page. The costs are based on estimates obtained from the manufacturers of the existing aerators; the Aqua-Lator (511) manufactured by Siemens, and the Aqua Jet manufactured by Aqua-Aerobics.

Table 3 Additional Aerators–Engineer’s Opinion of Probable Cost Blue Lake Wastewater Treatment Facility, Blue Lake, CA	
Contractor overhead, profit, bonding, insurance	\$11,000
Aeration Equipment ¹	\$18,000
Cable	\$1,000
Installation	\$6,000
Electrical	\$20,000
Subtotal	\$56,000
Contingency	\$9,000
Engineering Procurement	\$12,000
Total	\$77,000²
1. Manufacturers quotes plus 20%	
2. Taxes and fees not included.	

The City has agreed in concept to a cost sharing arrangement. As a starting point for further discussion, approximately 27% of the oxygen provided by the two 5 HP exceeds the projected oxygen required for the MRB loading. The additional aeration will augment the natural aeration, providing a more reliable facility than the current configuration.

Power Requirements

See Attachment 2, Electrical Review and Response prepared by Richard Sample Engineering.

References

Metcalf and Eddy. (1972). *Wastewater Engineering: Collection, Treatment, Disposal*. New York, NY:McGraw-Hill.

Water Pollution Control Federation. (1988). *Aeration: Manual of Practice FD-13*. Alexandria, VA:WPCF.

U.S. Environmental Protection Agency. (1983). *EPA Technical Report, Design Manual Municipal Wastewater Stabilization Ponds*. Cincinnati, OH:EPA.

I.D. No. 1B811290HUM
RDER No. RI-2012-005

SELF MONITORING REPORT
DISCHARGER: CITY OF BLUE LAKE

For the Months of January thru December, 2012

REQUIREMENTS COMPLIANCE SUMMARY

MONTH	INFLUENT		EFFLUENT		EFFLUENT		EFFLUENT		EFFLUENT		EFFLUENT		
	QUARTERLY		DAILY		MONTHLY		MONTHLY		MONTHLY		MONTHLY		
					B.O.D	N.F.R	SETTLEABLE SOLIDS		COLIFORM		NITROGEN		
									MPN	MPN			
			FLOW		mg/L	mg/L			100 ml	100 MI			
	B.O.D	N.F.R	MGD	MGD	MAX 80	MAX 80	mg/L	mg/L	MAX	MEDIAN	NITRATE	NITRITE	TOTAL
	mg/L	mg/L	MAX	MEAN	MEAN 50	MEAN 5	MAX 0.2	MEAN 0.	230	23			
JAN	100	130	1.863	0.561	16	44	<.1	<.1	4.5	<1.8			
FEB	91	110	0.700	0.309	14	23	<.1	<.1	<1.8	<1.8			
MAR	440	470	1.175	0.538	33	41	<.1	<.1	2.0	2.0			
APR	110	50	1.263	0.589	17	22	<.1	<.1	<1.8	<1.8			
MAY	130	130	0.352	0.184	ND	11	<.1	<.1	<1.8	<1.8			
JUN	240	110	0.526	0.225	26	41	0.2	<.1	1600	20	ND	ND	2.6
JUL	220	140	0.258	0.128	20	40	<.1	<.1	2.0	<1.8	ND	ND	4.4
AUG	183.75	119.5	0.146	0.111	21/17.8	51/16.3	<.1	<.1	350	6.5	ND	ND	4.8
SEP	350	240	0.115	0.087	27	16	<.1	<.1	<1.8	<1.8	0.52	ND	4.6
OCT	260	280	0.364	0.151	3.9	1.8	<.1	<.1	<1.8	<1.8	0.39	ND	7.4
NOV	180	160	0.470	0.269	7.5	4.3	<.1	<.1	<1.8	<1.8	0.50	ND	6.6
DEC	49	50	0.631	1.100	14	11	<.1	<.1	2.0	<1.8	2.70	0.59	6.9

B.O.D. N.F.R. & NITROGEN TESTS TAKEN ON:

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
INFLUENT	1/3/12	2/1/12	3/6/12	4/11/12	5/29/12	6/18/12	7/19/12	8/2/12	9/13/12	10/4/12	11/1/12	12/6/12
EFFLUENT	1/3/12	2/1/12	3/6/12	4/11/12	5/29/12	6/18/12	7/19/12	8/2/12	9/13/12	10/4/12	11/1/12	12/6/12
Nitrogen						1/1/12	7/19/12	8/2/12	9/13/12	10/4/12	11/1/12	12/14/12
INFLUENT								8-7 to 8-13				
EFFLUENT								8-7 to 8-13				
Effluent								8/23/12				

NOTES: *Extra tests taken for local limits study. ** Test taken to determine if rock filter still needed.

Required Nitrogens testing started in June

Results from average of all tests taken

I.D. No. 1B811290HUM
ORDER No. 94-28

Self Monitoring Report
DISCHARGER: CITY OF BLUE LAKE

FOR MONTHS OF: Jan-Dec 11

REQUIREMENTS COMPLIANCE SUMMARY

MONTH	INFLUENT		EFFLUENT		EFFLUENT		EFFLUENT		EFFLUENT	
	QUARTERLY		DAILY		MONTHLY		MONTHLY		MONTHLY	
									COLIFORM	
			FLOW		B.O.D	N.F.R	SETTLEABLE SOLIDS		MPN	MPN
	B.O.D	N.F.R	MGD	MGD	mg/L	mg/L	mg/L	mg/L	100 ml	100 MI
	mg/L	mg/L	MAX	MEAN	MAX 80	MAX 80	MAX 0.2	MEAN 0.1	MAX	MEDIAN
					MEAN SO	MEAN SO			230	23
JAN	160	110	0.784	0.303	17	28	<.1	<.1	<1.8	<1.8
FEB	81	110	0.6S1	0.294	S	22	<.1	<.1	<1.8	<1.8
MAR	130	90	0.922	0.572	20	2S	<.1	<.1	<1.8	<1.8
APR	130	110	0.6S1	0.338	8	12	<.1	<.1	<1.8	<1.8
MAY	170	180	0.202	0.164	19	8	<.1	<.1	<1.8	<1.8
JUN	260	140	0.2S4	0.1S	11	7	<.1	<.1	<1.8	<1.8
JUL	240	180	0.184	0.101	12	33	<.1	<.1	<1.8	<1.8
AUG	240	220	0.118	0.104	10	13	<.1	<.1	<1.8	<1.8
SEP	340	370	0.113	0.093	27	8	<.1	<.1	<1.8	<1.8
OCT	140	140	0.671	0.198	3.9	10	<.1	<.1	<1.8	<1.8
NOV	380	260	0.408	0.241	6.S	11	<.1	<.1	<1.8	<1.8
DEC	190	180	0.288	0.191	8.8	33	<.1	<.1	<1.8	<1.8

**B.O.D & N.F.R
TESTS TAKEN
ON:**

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER	
Jan 5 2011	INFLUENT	Apr 8 2011	INFLUENT	Jul 1 2011	INFLUENT	Oct 19 2011	INFLUENT
Feb 9 2011	INFLUENT	May 6 2011	INFLUENT	Aug 5 2011	INFLUENT	Nov 14 2011	INFLUENT
Mar 3 2011	INFLUENT	Jun 3 2011	INFLUENT	Sep 7 2011	INFLUENT	Dec 13 2011	INFLUENT
Jan 5 2011	EFFLUENT	Apr 8 2011	EFFLUENT	Jul 12 2011	EFFLUENT	Oct 19 2011	EFFLUENT
Feb 9 2011	EFFLUENT	May 6 2011	EFFLUENT	Aug 5 2011	EFFLUENT	Nov 14 2011	EFFLUENT
Mar 3 2011	EFFLUENT	Jun 3 2011	EFFLUENT	Sep 7 2011	EFFLUENT	Dec 13 2011	EFFLUENT

PREPARED BY: GLENN BERNALD . CHIEF PLANT OPERATOR

DATE: Jan 9 2012

EXISTING SUMMER

Blue Lake Wastewater Treatment System
Existing Loading
Summer Conditions
Basin 4

Prepared By **SMF**
11/6/2013

Section 1: Process Parameters

AAF	Design Flow	0.14 MGD	530 m ³ /day
	Influent BOD ₅	1 mg/l	
		2 lb/day	1 kg/day
	Design Effluent BOD ₅	1 mg/l	
		1 lb/day	0 kg/day
	Influent NH ₃ -N	18 mg/l	
		21 lb/day	10 kg/day
	Design Effluent NH ₃ -N	14 mg/l	
		16 lb/day	7 kg/day
	Basin Temperature (Max)	65 degrees F	18 degrees C
	Elevation	100 ft MSL	30 m MSL

Section 2: Basin Geometry

Pond 4	Total Volume	2.66 MG	10,069 m ³
	HAT	19.00 days @ ADWF	

Section 3: Aeration Requirements AOR Calculation

BOD ₅ Removed	1 lb/day	0 kg/day
NH ₃ -N Removed	5 lb/day	2 kg/day
	2.5 lb O ₂ /lb BOD ₅	2.5 kg O ₂ /kg BOD ₅
	4.6 lb O ₂ /lb NH ₃ -N	4.6 kg O ₂ /kg NH ₃ -N
Total AOR to system	24 lb O ₂ /day	11 kg O ₂ /day

SOR Calculation

$$SOR = \frac{(AOR) \cdot (Cs_{20})}{(a) \cdot (j) \cdot (C_s - C_w) \cdot (1.024)^{T-20}}$$

Where:

a =	0.80	Cs =	9.37
b =	0.95	Cw =	2.0
t =	1.03	Cs ₂₀ =	9.09
W =	1.00	Temp =	18

Therefore:

SOR =	41 lb O ₂ /day	19 kg O ₂ /day
SOR =	2 lb O ₂ /hr/basin	1 kg O ₂ /hr/basin

Type of Aerator Aerator

SAE of Aeration System	2.5 lb O ₂ /Hp-hr	1.5 kg O ₂ /kW-hr
	Existing aerators	
Aeration Power Required	0.7 Hp/basin	0.5 kW/basin
	One additional	

Section 4: Mixing System Design

Design Mixing Intensity	5 Hp/MG	1.0 W/m ³
Mixing Power Required	13.3 Hp/basin	9.9 kW/basin

Blue Lake Wastewater Treatment System
 Existing Loading
 Summer Conditions
 Pond 3

Prepared By SMF
 11/6/2013

Section 1: Process Parameters

AAF	Design Flow	0.14 MGD	530 m ³ /day
	Influent BOD ₅	5 mg/l	
		6 lb/day	3 kg/day
	Design Effluent BOD ₅	1 mg/l	
		2 lb/day	1 kg/day
	Influent NH ₃ -N	21 mg/l	
		25 lb/day	11 kg/day
	Design Effluent NHrN	18 mg/l	
		21 lb/day	10 kg/day
	Basin Temperature (Max)	65 degrees F	18 degrees C
	Elevation	100 ft MSL	30 m MSL

Section 2: Basin Geometry

Pond 3	Total Volume	1.28 MG	4,845 m ³
	HAT	9.15 days @ ADWF	

Section 3: Aeration Requirements

AOR Calculation

BOD ₅ Removed	4 lb/day	2 kg/day
NH ₃ -N Removed	4 lb/day	2 kg/day
	2.5 lb O ₂ /lb BOD ₅	2.5 kg O ₂ /kg BOD ₅
	4.6 lb O ₂ /lb NH ₃ -N	4.6 kg O ₂ /kg NH ₃ -N
Total AOR to system	27 lb O ₂ /day	12 kg Oday

SOR Calculation

$$SOR = \frac{(AOR) \cdot (C_{s20})}{(a) \cdot \{ (J - C_{\infty}) - C_w \} \cdot (T - 20)}$$

Where:

a =	0.80	Cs =	9.37
b =	0.95	Cw =	2.0
t =	1.03	Cs20 =	9.09
W =	1.00	Temp =	18

Therefore:

SOR =	46 lb O ₂ /day	21 kg O ₂ /day
SOR =	2 lb O ₂ /hr/basin	1 kg O ₂ /hr/basin

Type of Aerator Aerator

SAE of Aeration System	2.5 lb O ₂ /Hp-hr	1.5 kg O ₂ /kW-hr
Existing aerators		
Aeration Power Required	0.8 Hp/basin	0.6 kW/basin
One additional		

Section 4: Mixing System Design

Design Mixing Intensity	5 Hp/MG	1.0 W/m ³
Mixing Power Required	6.4 Hp/basin	4.8 kW/basin

Blue Lake Wastewater Treatment System
Existing Loading
Summer Conditions
Basin 2

Prepared By **SMF**
11/6/2013

Section 1: Process Parameters

AAF	Design Flow	0.14 MaQ	530 m ³ /day
	Influent BOD ₅	15 mg/l	
		18 lb/day	8 kg/day
	Design Effluent BOD ₅	5 mg/l	
		6 lb/day	3 kg/day
	Influent NH ₃ -N	25 mg/l	
		29 lb/day	13 kg/day
	Design Effluent NH ₃ -N	21 mg/l	
		25 lb/day	11 kg/day
	Basin Temperature (Max)	65 degrees F	18 degrees C
	Elevation	100 ft MSL	30 m MSL

Section 2: Basin Geometry

Pond 2	Total Volume	1.35 MG	5,110 m ³
	HRT	9.61 days@ ADWF	

Section 3: Aeration Requirements

AOR Calculation

BOD ₅ Removed	12 lb/day	5 kg/day
NH ₃ -N Removed	5 lb/day	2 kg/day
	2.5 lb O ₂ /lb BOD ₅	2.5 kg O ₂ /kg BOD ₅
	4.6 lb O ₂ /lb NH ₃ -N	4.6 kg O ₂ /kg NH ₃ -N
Total AOR to system	51 lb O ₂ /day	23 kg O ₂ /day

SOR Calculation

$$SOR = \frac{(AOR) \cdot (C_{s20})}{(aJ \cdot r_p \cdot c_s - C_w J \cdot r_{1.024}) T^{2.0}}$$

Where:

	0.80	C _s =	9.37
b =	0.95	C _w =	2.0
t =	1.03	C _{s20} =	9.09
W =	1.00	Temp =	18

Therefore:

SOR =	87 lb O ₂ /day	40 kg O ₂ /day
SOR =	4 lb O ₂ /hr/basin	2 kg O ₂ /hr/basin

Type of Aerator Aerator

SAE of Aeration System	2.5 lb O ₂ /Hp-hr	1.5 kg O ₂ /kW-hr
Existing aerators		
Aeration Power Required	1.5 Hp/basin	1.1 kW/basin
One additional		

Section 4: Mixing System Design

Design Mixing Intensity	5 Hp/MG	1.0 W/m ³
Mixing Power Required	6.8 Hp/basin	5.0 kW/basin

Blue Lake Wastewater Treatment System
Existing Loading
Summer Conditions
Pond 1B

Prepared By SMF
11/6/2013

Section 1: Process Parameters

AAF	Design Flow	0.14 MGD	530 m ³ /day m ³ /day
	Influent BOD ₅	BB mg/l	
	Design Effluent BOD ₅	103 lb/day 15 mg/l	47 kg/day
	Influent NH ₃ -N	18 lb/day 32 mg/l	8 kg/day
	Design Effluent NH ₃ -N	37 lb/day 25 mg/l	17 kg/day
		29 lb/day	13 kg/day
	Basin Temperature (Max)	65 degrees F	16 degrees C
	Elevation	100 It MSL	30 m MSL

Section 2: Basin Geometry

Pond 1B	Total Volume	2.25 MG	B,517 m ³
	HRT	16.00 <u>dw@ADWF</u>	

Section 3: Aeration Requirements

AOR Calculation

BOD ₅ Removed	B5 lb/day	39 kg/day
NH ₃ -N Removd	8 lb/day	3 kg/day
	2.5 lb O ₂ /lb BOD ₅	2.5 kg O ₂ /kg BOD ₅
	4.6 lb O ₂ /lb NH ₃ -N	4.6 kg O ₂ /kg NH ₃ -N
Total AOR to system	248 lb O ₂ /day	113 kg O ₂ /day

SOR Calculation

$$SOR = \frac{(AOR) \cdot IC_{max}}{(a)^{1/JJ} \cdot C_{s, C_{s, J} \cdot (1.024)^{T-20}}$$

Where :

a =	0.20	C _s =	9.78
b =	0.95	Cw =	2.0
I =	1.08	Cr =	9.09
W =	1.00	Temp =	16

Therefore:

SOR =	425 lb O ₂ /day	193 kg O ₂ /day
SOR =	18 lb O ₂ /hr/basin	8 kg O ₂ /hr/basin

Type of Aerator Aerator

SAE of Aeration System	2.5 lb O ₂ /hp-hr	1.5 kg O ₂ /kW-hr
Aeration Power Required	Existing aerators 7.1 Hp/basin One additional Design	5.3 kW/basin

Section 4: Mixing System

Design Mixing Intensity	5 Hp/MG	1.0 W/m ³
Mixing Power Required	11.3 Hp/basin	8.4 kW/basin

Blue Lake Wastewater Treatment System
Existing Loading
Summer Conditions
Basin 1A

Prepared By **SMF**
116/2013

Section 1: Process Parameters

AAF	Design Flow	0.14 MGD	530 m ³ /day
	Influent BODs	231 mg/l	
		270 lb/day	123 kg/day
	Design Effluent BOD ₅	88 mg/l	
		103 lb/day	47 kg/day
	Influent NH ₃ -N	35 mg/l	
		41 lb/day	19 kg/day
	Design Effluent NH ₃ -N	32 mg/l	
		37 lb/day	17 kg/day
	Basin Temperature (Max)	65 degrees F	18 degrees C
	Elevation	100 ft MSL	30 m MSL

Section 2: Basin Geometry

Pond 1A	Total Volume	0.91 MG	3,445 m ³
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HRT 6.51 [days@ ADWF](#)

Section 3: Aeration Requirements AOR Calculation

BOD ₅ Removed	167 lb/day	76 kg/day
NH ₃ -N Removed	4 lb/day	2 kg/day
	2.5 lb O ₂ /lb BOD ₅	2.5 kg O ₂ /kg BOD ₅
	4.6 lb O ₂ /lb NH ₃ -N	4.6 kg O ₂ /kg NH ₃ -N
Total AOR to system	436 lb O ₂ /day	198 kg O ₂ /day

SOR Calculation

$$SOR = \frac{(AOR) \cdot (C_{s20})}{(a) \cdot \{J^{\circ}C_r - C_w\} \cdot (1.024)^{t-0}}$$

Where:

a =	0.80 *	Cs =	9.78
b =	0.95 -	Cw =	2.0
t =	1.07	Cs20 =	9.17
W =	1.00	Temp =	16

Therefore:

SOR =	754 lb O ₂ /day	343 kg O ₂ /day
SOR =	31 lb O ₂ /hr/basin	14 kg O ₂ /hr/basin

Type of Aerator Aerator

SAE of Aeration System	2.5 lb O ₂ /Hp-hr	1.5 kg O ₂ /kW-hr
Existing aerators		
Aeration Power Required	12.6 Hp/basin	9.4 kW/basin
One additional		

Section 4: Mixing System Design

Design Mixing Intensity	5 Hp/MG	1.0 W/m ³
Mixing Power Required	4.6 Hp/basin	3.4 kW/basin

EXISTING WINTER

Blue Lake Wastewater Treatment Facility
 Existing Loading
 Winter Conditions
 Basin 4
 Section 1: Process Parameters

Prepared By SMF
 11/6/2013

Peak Daily Flow	0.4 MGD	
Influent BOD ₅	8 mg/l	
Design Effluent BOD ₅	28 lb/day	13 kg/day
	4 mg/l	
	0 lb/day	0 kg/day
Influent NH ₃ -N	9 mg/l	
Design Effluent NH ₃ -N	29 lb/day	13 kg/day
	8 mg/l	
	26 lb/day	12 kg/day
Basin Temperature (Max)	54 degrees F	12 degrees C
Elevation	100 ft MSL	30 m MSL

Section 2: Basin Geometry
 Pond 4

Total Volume	2.66 MG	10,069 m ³
HRT	6.65 days @MMWWF	
AOR Calculation		
BOD ₅ Removed	28 lbf/day	13 kgf/day
NH ₃ -N Removed	3 lbf/day	2 kg/day
	2.5 lb O ₂ /lb BOD ₅	2.5 kg O ₂ /kg BOD ₅
	46 lb O ₂ /lb NH ₃ -N	4.6 kg O ₂ /kg NH ₃ -N
Total AOR to system	85 lb O ₂ /day	39 kg O ₂ /day

SOR Calculation

$$SOR = \frac{(AOR) \cdot (C_{\infty} - C_{\infty})}{(C_{\infty} - C_{\infty}) \cdot (1 - 0.24) \cdot r''}$$

Where:

α	0.80	$C_{\infty} =$	10.71
β	0.95	$C_w =$	2.0
μ	1.18	$C_{0.20} =$	9.09
n	1.00	Temp =	12

Therefore:

SOR =	144 lb O ₂ /day	65 kg O ₂ /day
SOR =	6 lb O ₂ /hr/basin	3 kg O ₂ /hr/basin

Type of Aerator Aerator

SAE of Aeration System	2.5 lb O ₂ /Hp-hr	1.5 kg O ₂ /kW-hr
Aeration Power Required	Existing aerators 2.4 Hp/basin One additional	1.8 kW/basin

Section 4: Mixing System Design

Design Mixing Intensity	5 Hp/MG	1.0 W/m ³
Mixing Power Required	13.3 Hp/basin	9.9 kW/basin

Blue Lake Wastewater Treatment Facility
 Existing Loading
 Winter Conditions
 Basin 3
 Section 1: Process Parameters

Prepared By SMF
 1116/2013

Peak Daily Flow	0.4 MGD	
Innueut BOD	14 mg/l	
Design Effluent BOD ₅	47 lb/day	21 kg/day
	8 mg/l	
Influent NH ₃ -N	28 lb/day	kg/day
	9 mg/l	
Design Effluent NH ₃ -N	31 lb/day	14 kg/day
	9 mg/l	
	29 lb/day	13 kg/day
Basin Temperature (Max)	54 degrees F	12 degrees C
Elevation	100 ft MSL	30 m MSL

Section 2: Basin Geometry

Pond 3		
Total Volume	1.28 MG	4,845 m ³
HRT	3.20 days @MMWWF	
AOR Calculation		
BOD ₅ Removed	19 lb/day	8 kg/day
NH ₃ -N Removed	2 lb/day	1 kg/day
	2.5 lb O ₂ /lb BOD ₅	2.5 kg O ₂ /kg BOD ₅
	4.6 lb O ₂ /lb NH ₃ -N	4.6 kg O ₂ /kg NH ₃ -N
Total AOR to system	56 lb O ₂ /day	25 kg O ₂ /day
SOR Calculation		
$SOR = \frac{(AOFI) \cdot (C_{ss})}{(a)(f)(C_{ss} - C_N) \cdot (1 - 0.24)^{1.0}}$		
Where:		
a	0.80	C _{ss} = 10.71
f	0.95	C _w = 2.0
7	1.18	C ₂₀ = 9.09
D	1.00	Temp = 12
Therefore:		
SOR =	94 lb O ₂ /day	43 kg O ₂ /day
SOR =	4 lb O ₂ /hr/basin	2 kg O ₂ /hr/basin
Type of Aerator	Aerator	
SAE of Aeration System	2.5 lb O ₂ /Hp-hr	15 kg O ₂ /kW-hr
Existing aerators		
Aeration Power Required	1.6 Hp/basin	1-2 kW/basin
One additional		

Section 4: Mixing System Design

Design Mixing Intensity	5 Hp/MG	1.0 W/m ³
Mixing Power Required	6.4 Hp/basin	4.8 kW/basin

Blue Lake Wastewater Treatment Facility
Existing Loading
Winter Conditions
Basin 2

Prepared By SMF 11/6/2013

Section 1: Process Parameters

Peak Daily Flow	0.4 MGD	
Influent BOD ₀	23 mg/l	
	77 lb/day	35 kg/day
Design Effluent BOD ₅	14 mg/l	
	47 lb/day	21 kg/day
Influent NH ₃ -N	10 mg/l	
	33 lb/day	15 kg/day
Design Effluent NHTN	9 mg/l	
	31 lb/day	14 kg/day
Basin Temperature (Max)	54 degrees F	12 degrees C
Elevation	100 ft MSL	30 m MSL

Section 2: Basin Geometry

Pond 2		
Total Volume	1.35 MG	5,110 m ³
HRT	3.36 days @MMWWF	
AOR Calculation		
BOD Removed	30 lb/day	14 Kg/day
NH ₃ -N Removed	2 lb/day	1 kg/day
	2.5 lb O ₂ /lb BOD ₅	2.5 kg O ₂ /kg BOD ₅
	4.6 lb O ₂ / lb NH ₃ -N	4.6 kg O ₂ /kg NH ₃ -N
Total AOR to system	84 lb O ₂ /day	38 kg O ₂ /day
SOR Calculation		
SOR =	$\frac{(AOR) \cdot (C_{\infty})}{(C_{\infty} - C_w) \cdot (1.024)^{\frac{1}{T-20}}}$	
Where:		
"	0.80	C _∞ = 10.71
f _l	0.95	C _w = 2.0
	1.18	C ₀₂₀ = 9.09
f _l	1.00	Temp = 12
Therefore:		
SOR =	142 lb O ₂ /day	64 kg /day
SOR =	6 lb O ₂ /hr/basin	3 kg O ₂ /hr/basin
Type of Aerator	Aerator	
SAE of Aeration System	2.5 lb O ₂ /Hp-hr	1.5 kg O ₂ /kW-hr
	Existing aerators	
Aeration Power Required	2.4 Hp/basin	1.8 kW/basin
	One additional	

Section 4: Mixing System Design

Design Mixing Intensity	5 Hp/MG	1.0 W/m
Mixing Power Required	6.8 Hp/basin	5.0 kW/basin

Blue Lake Wastewater Treatment Facility
Existing Loading
Winter Conditions
Basin 1B

Prepared By SMF
11/5/2013

Section 1: Process Parameters

Peak Daily Flow	0.4 MGD	1,514 m ³ /day
Influent BOD ₅	48 mg/l	
	160	73 kg/day
Design Effluent BOD ₅	23 mg/l	
	77 lb/day	35 kg/day
Influent NH ₃ -N	11 mg/l	
	35 lb/day	16 kg/day
Design Effluent NH ₃ -N	10 mg/l	
	33 lb/day	15 kg/day
Basin Temperature (Max)	54 degrees F	12 degrees C
Elevation	100 ft MSL	30 m MSL

Section 2: Basin Geometry

Pcmd 16

Total Volume	2.25 MG	8,517 m ³
HRT	5.63 days @MMV11/VF	
AOR Calculation		
BOD ₅ Removed	83 lb/day	38 kg/day
NH ₃ -N Removed	2 lb/day	1 kg/day
	2.5 lb O ₂ /lb BOD ₅	2.5 kg O ₂ /kg BOD ₅
	4.6 lb O ₂ /lb NH ₃ -N	4.6 kg O ₂ /kg NH ₃ -N
Total AOR to system	218 lb O ₂ /day	99 kg O ₂ /day

SOR Calculation

$$SOR = \frac{(AOR) \cdot (C_{\infty})}{(1.02)^{\frac{1}{T} \cdot (C_{\infty} - C_w)} \cdot (1.02)^{\frac{1}{T} \cdot (C_{\infty} - C_w)}}$$

Where:

$\frac{1}{T}$	0.80	$C_{\infty} =$	10.71
$\frac{1}{T}$	0.95	$C_w =$	2.0
$\frac{1}{T}$	1.18	$C_{\infty} =$	9.09
$\frac{1}{T}$	1.00	Temp =	12

Therefore:

SOR =	366 lb O ₂ /day	166 kg O ₂ /day
SOR =	15 lb O ₂ /hr/basin	7 kg O ₂ /hr/basin

Type of Aerator Aerator

SAE or Aeration System 2.5 lb O₂/hr 1.5 kg O₂/kW-hr

Aeration Power Required Existing aerators 6.1 Hp/basin 4.5 kW/basin
One additional

Section 4: Mixing System Design

Design Mixing Intensity	5 Hp/MG	1.0 W/m ³
Mixing Power Required	11.3 Hp/basin	6.4 kW/basin

Blue Lake Wastewater Treatment Facility
Existing Loading
Winter Conditions
Basin 1A

Prepared By SMF
Revised: 11/6/2011

Section 1: Process Parameters

AWWF Peak Flow	0.40 MGD	1,514 m ³ /day
Influent BOD ₅	80 mg/l	
Design Effluent BOD ₅	270 lb/day 46 mg/l	123 kg/day
Influent NH ₃ -N	160 lb/day 11 mg/l	73 kg/day
Design Effluent NH ₃ -N	37 lb/day 10.6 mg/l	17 kg/day
	35 lb/day	16 kg/day
Basin Temperature (Max)	54 degrees F	12 degrees C
Elevation	100 ft MSL	30 m MSL

Section 2: Basin Geometry

Pond 1A		
Total Volume	0.91 MG	3,445 m ³
HRT	2.28 days @MMWWF	
AOR Calculation		
BOD ₅ Removed	110 lb/day	50 kg/day
NH ₃ -N Removed	2 lb/day	1 kg/day
	2.5 lb O ₂ /lb BOD ₅	2.5 kg O ₂ /kg BOD ₅
	4.6 lb O ₂ /lb NH ₃ -N	4.6 kg O ₂ /kg NH ₃ -N
Total AOR to system	282 lb O ₂ /day	128 kg O ₂ /day
SOR Calculation		
SOR:	$SOR = \frac{(AOR) \cdot (C_m)}{(a) \cdot (f) \cdot (C_s - C_w) \cdot (1.024)^{\frac{T-20}{10}}}$	
Where:		
α	0.80	$C_s = 10.71$
f	0.95	$C_w = 2.0$
T	1.17	$Q = 9.17$
T	1.00	Temp = 12
Therefore:		
SOR =	479 lb O ₂ /day	218 kg O ₂ /day
SOR =	20 lb O ₂ /hr/basin	9 kg O ₂ /hr/basin
Type or Aerator	Aerator	
SAE of Aeration System	2.5 lb O ₂ /Hp-hr	1.5 kg O ₂ /kW-hr
Aeration Power Required	Existing aerators 8.0 Hp/basin One additional	5.9 kW/basin

Section 4: Mixing System Design

Design Mixing Intensity	15 Hp/MG	3.0 W/m ³
Mixing Power Required	13.7 Hp/basin	10.2 kW/basin

WITH BREWERY SUMMER

Blue Lake Wastewater Treatment System
 Brewery Loading
 Summer Conditions
 Basin 4

Prepared By SMF
 Revision:

Section 1: Process Parameters

AAAF	Design Flow	0.14 days@ AOWF 0.4 days @MMWWF	530 m ³ /day
	Influent BOD ₅	2 mg/l 2 lb/day	1 kg/day
	Design Effluent BOD ₅ <1	mg/l lb/day	0 kg/day
	Influent NH ₃ -N	18 mg/l lb/day	0 kg/day
	Design Effluent NH ₃ -N	14 mg/l 16 lb/day	7 kg/day
	Basin Temperature (Max)	65 degrees F	18 degrees C
	Elevation	100 ft MSL	30 m MSL

Section 2: Basin Geometry

Pond4	Total Volume	2.66 MG	10,069 m ³
	HRT	19.00 days@ AOWF	
	AOR Calculation		
	9005 Removed	2 lb/day	1 kg/day
	NH ₃ -N Removed	-16 lb/day	-7 Kg/day
		2.5 lb 02'1b BOD ₅	2.5 kg O ₂ /kg BOD ₅
		4.6 lb O ₂ /lb NH ₃ -N	4.6 kg O ₂ /kg NH ₃ -N
	Total AOR to system	-70 lb O ₂ /day	-32 kg O ₂ /day

Section 3: Aeration Requirements

SOR Calculation

$$SOR = \frac{(AOR) (C_{s,ss})}{r_{afp} \cdot C_s - C_{s,i} \cdot (C_{OU})_{ss}}$$

Where:

$C_{s,ss}$	0.80	$C_{s,i}$	9.37
C_{OU}	0.95	$C_{s,i}$	2.0
T	1.03	C_{OU}	9.09
r_i	1.00	Temp	18

Therefore:

SOR =	-121 lb O ₂ /day	-55 kg O ₂ /day
SOR =	-5 lb O ₂ /hr/basin	-2 kg O ₂ /hr/basin

Type of Aerator Aerator

SAE of Aeration System 2.5 lb O₂/Hp-hr 1.5 kg O₂/kW-hr

Aeration Power Required Existing aerators -2.0 Hp/basin
 One additional -1.5 kW/basin

Section 4: Mixing System Design

Design Mixing Intensity	5 Hp/MG	1.0 W/m ³
Mixing Power Required	13.3 Hp/basin	9.9 kW/basin

Blue Lake Wastewater Treatment System
 Brewery loading
 Summer Conditions
 Basin 3

Prepared By **SMF**
 Revision:

Section 1: Process Parameters

AAF	Design Flow	0.14 days @ AQWF 0.4 days @ MMWWF	530 m ³ /day
	Influent BOD ₅	6 mg/l 7 lb/day	3 kg/day
	Design Effluent BOD ₅	2 mg/l 2 lb/day	1 kg/day
	Influent NH ₄ -N	21 mg/l 25 lb/day	11 kg/day
	Design Effluent NH ₃ -N	18 mg/l 21 lb/day	10 kg/day
	Basin Temperature (Max)	65 degrees F	18 degrees C
	Elevation	100 ft MSL	30 m MSL

Section 2: Basin Geometry

Pond 3	Total Volume	1.28 MG	4.845 m ³
	HRT	9.15 days @ 1.5 DWF	

Section 3: Aeration Requirements

AOR Calculation

BOD ₅ Removed	5 lb/day	2 kg/day
NH ₄ -N Removed	4 lb/day	2 kg/day
	2.5 lb O ₂ /lb BOD ₅ ; 4.6 lb O ₂ /lb NH ₄ -N	2.5 kg O ₂ /kg BOD ₅ ; 4.6 kg O ₂ /kg NH ₄ -N
Total AOR to system	28 lb O ₂ /day	13 kg O ₂ /day

SOR Calculation

$$SOR = \frac{(AOR) \cdot (1.024)^{(T-20)}}{(a) \cdot (P^{0.95} - C_{\infty})}$$

Where:

$\frac{1.1}{(1 - \frac{1}{T})}$	0.80	C _∞ =	9.37
	0.95	C _∞ =	2.0
T	103	C _∞ =	9.09
	100	Temp =	18

Therefore:

SOR =	49 lb O ₂ /day	22 kg O ₂ /day
SOR =	2 lb O ₂ /hr/basin	1 kg O ₂ /hr/basin

Type of Aerator Aerator

SAE of Aeration System	2.5 lb O ₂ /Hp-hr	1.5 kg O ₂ /kW-hr
Existing aerators	0.8 Hp/basin	0.6 kW/basin
Aeration Power Required	One additional	

Section 4: Mixing System Design

Design Mixing Intensity	5 Hp/1MG	1.0 W/m ³
Mixing Power Required	6.4 Hp/basin	4.8 kW/basin

Blue Lake Wastewater Treatment System
 Brewery Loading
 Summer Conditions
 Basin 2

Prepared By SMF

Revision:

Section 1: Process Parameters

AAF	Design Flow	0.14 dm@ AOWF	530 m ³ /day
	Influent BOD ₅	19 mg/l	
	Design Effluent BOD ₅	22 lb/day	10 kg/day
		6 mg/l	
	Influent NH ₃ -N	7 lb/day	3 kg/day
		25 mg/l	
	Design Effluent NH ₃ -N	29 lb/day	13 Kg/day
		21 mg/l	
		25 lb/day	11 kg/day
	Basin Temperature (Max)	65 degrees F	18 degrees C
	Elevation	100 ft MSL	30 m MSL

Section 2: Basin Geometry

Pond 2	Total volume	1.35 MG	5,110 m ³
	HRT	9.61 days@ ADWF	

Section 3: Aeration Requirements
AOR Calculation

BOD ₅ Removed	15 lb/day	7 kg/day
NH ₃ -N Removed	5 lb/day	2 kg/day
	25 lb O ₂ /lb BOD ₅	2.5 kg O ₂ /kg BOD ₅
	4.6 lb O ₂ /lb NH ₃ -N	4.6 kg O ₂ /kg NH ₃ -N
Total AOR to system	59 lb O ₂ /day	27 kg O ₂ /day

SOR Calculation

$$SOR = \frac{(AOR) \cdot \rho_{O_2}}{(a)(J)(C_s - C_w) \cdot (1.024)^{T-20}}$$

Where:

α	0.80	C_s	9.37
(J)	0.95	C_w	2.0
T	1.03	C_{O_2}	9.09
n	1.00	Temp	18

Therefore:

SOR =	103 lb O ₂ /day	47 kg O ₂ /day
SOR =	4 lb O ₂ /hr/basin	2 kg O ₂ /hr basin

Type of Aerator Aerator

SAE of Aeration System 2.5 lb O₂/Hp-hr 1.5 kg O₂/kW-hr

Existing aerators
 Aeration Power Required 1.7 Hp/basin 13 kW/basin
 One additional

Section 4: Mixing System Design

Design Mixing Intensity	5 Hp/MG	1.0 W/m ³
Mixing Power Required	6.8 Hp/basin	5.0 kW/basin

Blue Lake Wastewater Treatment System

Brewery Loading
Summer Conditions

Prepared By SMF

Basin 1B

Section 1: Process Parameters

Design Flow	0.14 MGD	530 m ³ /day
Influent BOD ₅	117 mg/l	
	137 lb/day	62 kg/day
Design Effluent BOD ₅	19 mg/l	
	22 lb/day	10 kg/day
Influent NH ₃ -N	32 mg/l	
	37 lb/day	17 kg/day
Design Effluent NH ₃ -N	25 mg/l	
	29 lb/day	13 kg/day
Basin Temperature (Max)	65 degrees F	16 degrees C
Elevation	100 ft MSL	30 m MSL

Section 2: Basin Geometry
Pond 1B

Total Volume	2,115 MG	6.517 m ³
HRT	16.00 days	
AOR Calculation		
BOD ₅ Removed	114 lb/day	52 kg/day
NH ₃ -N Removed	2 lb/day	3 kg/day
	2.5 lb O ₂ /lb BOD ₅	25 kg O ₂ /kg BOD ₅
	4.6 lb O ₂ /lb NH ₃ -N	4.6 kg O ₂ /kg NH ₃ -N

Section 3: Aeration Requirements

Total AOR to system	321 lb O ₂ /day	146 kg O ₂ /day
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SOR Calculation

$$SOR = \frac{(AOR) \cdot (C'' - C_e)}{(a)(f)(1 - C_e/C_s) \cdot (1024)}$$

Where:

C''	0.80	C_s	9.78
f	0.95	C_e	2.0
T	1.08	C_s	9.09
θ	1.00	Temp	16

Therefore:

SOR =	550 lb O ₂ /day	250 kg O ₂ /day
SOR =	23 lb O ₂ /hr/basin	10 kg O ₂ /hr/basin

Type of Aerator Aerator

SAE of Aeration System 2.5 lb O₂/Hp-hr 1.5 kg O₂/kW-hrAeration Power Required Existing aerators
9.2 Hp/basin 6.8 kW/basin
One additional

Section 4: Mixing system Design

Design Mixing Intensity	5 Hp/MG	1.0 W/m ³
Mixing Power Required	11.3 Hp/basin	8.4 kW/basin

Blue Lake Wastewater Treatment System
 Brewery Loading
 Summer Conditions
 Basin 1A
 Section 1: Process Parameters

Prepared By SMF

AAF	Design Flow	0.14 MGO	530 m ³ /day
	Influent BOD ₅	308 mg/l	
		360 lb/day	163 kg/day
	Design Effluent 900 ₅	117 mg/l	
		137 lb/day	62 kg/day
	Influent NH ₃ -N	35 mg/l	
		41 lb/day	19 kg/day
	Design Effluent NH ₃ -N	32 mg/l	
		37 lb/day	17 kg/day
	Basin Temperature (MID)	65 degrees F	18 degrees C
	Elevation	100 ft MSL	30 m MSL

Section 2: Basin Geometry

Pond 1A	Total Volume	0.91 MG	3,445 m
	HRT	6.51 gm	

Section 3: Aeration Requirements

AOR Calculation

BOD ₅ Removed	223 lb/day	101 kg/day
NH ₃ -N Removed	4 lb/day	2 kg/day
	2.5 lb O ₂ /lb BOD ₅	2.5 kg O ₂ /kg BOD ₅
	4.6 lb O ₂ /lb NH ₃ -N	4.6 kg O ₂ /kg NH ₃ -N
Total AOR to system	576 lb O ₂ /day	262 kg O ₂ /day

SOR Calculation

$$SOR = \frac{(AOR) \cdot (C_s)}{(a) \cdot (p \cdot C_s + C_w) \cdot (1.024)^{T-20}}$$

Where:

a	0.80	C _s	9.78
f _s	0.95	C _w	2.5
T	1.07	C _{112D}	9.17
()	1.00	Temp	16

Therefore:

SOR =	1,070 lb O ₂ /day	486 kg O ₂ /day
SOR =	45 lb O ₂ /hr/basin	20 kg O ₂ /hr/basin

Type of Aerator Aerotor

SAE of Aeration System 2.5 lb O₂/Hp-hr 1.5 kg O₂/kW-hr

Existing aerators
 Aeration Power Required 17.8 Hp/basin 13.3 kW/basin
 One additional

Section 4: Mixing System Design

Design Mixing Intensity	5 Hp/IMG	1.0 W/m ³
Mixing Power Required	4.6 Hp/basin	3.4 kW/basin

WITH BREWERY WINTER

Blue Lake Wastewater Treatment Facility
 Brewery Loading
 Winter Conditions
 Basin 4
 Section 1: Process Parameters

Prepared By SMF
 6/11/2013

Peak Day Flow	0.4 days @MMWWF	
Influent BOD_5	11 mg/l	
Design Effluent BOD_5	38 lb/day	17 kg/day
	6 mg/l	
Influent NH ₃ -N	21 lb/day	10 kg/day
	9 mg/l	
Design Effluent NH ₃ -N	30 lb/day	14 kg/day
	8 mg/l	
	26 lb/day	12 kg/day
Basin Temperature (Max)	65 degrees F	18 degrees C
Elevation	100 ft MSL	30 m MSL

Section 2: Basin Geometry
 Pond 2

Total Volume	2.66 MG	10,069 m ³
	6.65 days @MMWWF	
AOR Calculation		
BOD_5 Removed	17 lb/day	8 kg/day
NH ₃ -N Removed	4 lb/day	2 kg/day
	2.5 lb O ₂ /lb BOD ₅	2.5 kg O ₂ /kg BOD ₅
	4.6 lb O ₂ /lb NH ₃ -N	4.6 kg O ₂ /kg NH ₃ -N
Total AOR to system	61 lb O ₂ /day	28 kg O ₂ /day
SOR Calculation		
$SOR = \frac{(AOR) \cdot (C_{\infty})}{(a)(f)(C_{\infty} - C_w) \cdot (1.024)^{T-20}}$		
Where:		
C_{∞}	0.80 •	$C_{\infty} = 9.37$
	0.95 •	$C_{\infty} = 2.0$
	1.03	$C_{\infty} = 9.09$
C_w	1.00	Temp = 18
Therefore:		
SOR =	106 lb O ₂ /day	46 kg O ₂ /day
SOR =	4 lb O ₂ /(hr·basin)	2 kg O ₂ /(hr·basin)
Type of Aerator	Aerator	
SAE of Aeration System	2.5 lb O ₂ /hp-hr	1.5 kg O ₂ /kW-hr
Existing aerators		
Aeration Power Required	1.8 Hp/basin	1.3 kW/basin
One additional		

Section 4: Mixing System Design

Design Mixing Intensity	5 Hp/MG	1.0 W/m ³
Mixing Power Required	133 Hp/basin	9.9 kW/basin

Blue Lake Wastewater Treatment Facility
 Brewery Loading
 Winter Conditions
 Basin 3

Prepared By **SMF**
 11/16/2013

Section 1: Process Parameters

Peak Day Flow	0.4 MGD	
Influent BOD_5	11 mg/l	
	63 lb/day	29 kg/day
Design Effluent BOD_5	11 mg/l	
	38 lb/day	17 kg/day
Influent NH_3-N	9 mg/l	
	31 lb/day	14 kg/day
Design Effluent NH_3-N	9 mg/l	
	30 lb/day	14 kg/day
Basin Temperature (Max)	54 degrees F	12 degrees C
Elevation	100 ft MSL	30 m MSL

Section 2: Basin Geometry

Pond 2		
Total Volume	1.28 MG	4,845 m ³
	3.20 days @ MMWWF	
AOR Calculation		
BODs Removed	25 lb/day	12 kg/day
NH_3-N Removed	1 lb/day	1 kg/day
	2.5 lb O ₂ /lb BOD ₅	2.5 kg O ₂ /kg BOD ₅
	4.6 lb O ₂ /lb NH_3-N	4.6 kg O ₂ /kg NH_3-N
Total AOR to system	70 lb O ₂ /day	32 kg O ₂ /day
SOR Calculation		
SOR =	$\frac{(AOR) \cdot (C_{s, max})}{(C_{s, max}) - C_w \cdot 10^{(1024/T - 1024/20)}}$	
Where:		
	0.80	C _{s, max} = 10.71
	0.95	C _w = 2.0
T	1.18	C _{s, a} = 9.09
0	1.00	Temp = 12
Therefore:		
SOR =	117 lb O ₂ /day	53 kg O ₂ /day
SOR =	5 lb O ₂ /hr/basin	2 kg O ₂ /hr/basin
Type of Aerator	Aerator	
SAE of Aeration System	2.5 lb O ₂ /Hp-hr	1.5 kg O ₂ /kW-hr
	Existing aerators	
Aeration Power Required	1.6 Hp/basin	1.5 kW/basin
	One additional	

Section 4: Mixing System Design

Design Mixing Intensity	5 Hp/MG	1.0 W/m ³
Mixing Power Required	6.4 Hp/basin	4.8 kW/basin

Blue Lake Wastewater Treatment Facility
 Brewery Loading
 Winter Conditions
 Basin 2
 Section 1: Process Parameters

Prepared By SMF
 11/6/2013

Peak Day Flow	0.4 MGO	
Influent BODs	31 mg/l	
Design Effluent BODs	104 lb/day	47 kg/day
	19 mg/l	
Influent NH ₃ -N	63 lb/day	29 kg/day
	10 mg/l	
Design Effluent NH ₃ -N	33 lb/day	15 kg/day
	9 mg/l	
	31 lb/day	14 kg/day
Basin Temperature (Max)	54 degrees F	12 degrees C
Elevation	100 ft MSL	30 m MSL

Section 2: Basin Geometry

Pond 2		
Total Volume	1.35 MG	5,110 m ³
	3.38 days @MMWWF	
AOR Calculation		
BOD ₅ Removed	41 lb/day	18 kg/day
NH ₃ -N Removed	2 lb/day	1 kg/day
	2.5 lb O ₂ /lb 8005	2.5 kg O ₂ /kg BOD
	4.6 lb O ₂ /lb NH ₃ -N	4.6 kg O ₂ /kg NH ₃ -N
Total AOR to system	111 lb O ₂ /day	50 kg O ₂ /day
SOR Calculation		
SOR =	$\frac{(AOR) \cdot (C_{\infty})}{(C_{\infty} - C_{\infty}) \cdot (1.024)^{T-12}}$	
Where:		
C_{∞}	0.80	C_{∞} = 10.71
i	0.95	C_w = 2.0
T	1-18	C_{10} = 9.09
T	12	Temp = 12
Therefore:		
SOR =	187 lb O ₂ /day	85 kg O ₂ /day
SOR =	8 lb O ₂ /hr/basin	4 kg O ₂ /hr/basin
Type of Aerator	Aerator	
SAE of Aeration System	2.5 lb O ₂ /Hp-hr	1.5 kg O ₂ /kW-hr
Existing aerators		
Aeration Power Required	3.1 Hp/basin	2.3 kW/basin
One additional		
Section 4: Mixing System Design		
Design Mixing Intensity	5 Hp/MG	1.0 W/m ³
Mixing Power Required	68 Hp/basin	5.0 kW/basin

Blue Lake Wastewater Treatment Facility
 Brewery Loading
 Winter Conditions
 Basin 19
 Section 1: Process Parameters

Prepared By SMF
 1/6/2013

Peak Daily Flow	0.4 MGD	1,514 m ³ /day
Innuent BOD ₅	65 mg/l	
Design Effluent BOD ₅	216 lb/day	98 kg/day
	31 mg/l	
	104 lb/day	47 kg/day
Influent NH ₃ -N	7 mg/l	
	35 lb/day	16 kg/day
Design Effluent NH ₃ -N	10 mg/l	
	33 lb/day	15 kg/day
Basin Temperature (Max)	54 degrees F	12 degrees C
Elevation	100 ft MSL	30 m MSL

Section 2: Basin Geometry

Pond 1B		
Total Volume	2-25 MG	8,517 m ³
	5.63 days @MMWWF	
AOR Calculation		
BOD ₅ Removed	112 lb/day	51 kg/day
NH ₃ -N Removed	2 lb/day	1 kg/day
	25 lb O ₂ /lb BOD	2.5 kg O ₂ /kg BOD
	4.6 lb O ₂ /lb NH ₃ -N	4.6 kg O ₂ /kg NH ₃ -N
Total AOR to system	289 lb O ₂ /day	132 kg O ₂ /day
SOR Calculation		
$SOR = \frac{(AOR) \cdot (C_{s,1})}{(a)(P^m C_s \cdot C_{s,1}) \cdot (1.024)^T}$		
Where:		
C_s	0.80 •	$C_{s,1}$ = 10.71
C_w	0.95 •	C_w = 20
T	1.18	C_{20} = 9.09
(1)	1.00	Temp = 12
Therefore:		
SOR =	487 lb O ₂ /day	221 kg O ₂ /day
SOR =	20 lb O ₂ /hr/basin	9 kg O ₂ /hr/basin
Type of Aerator	Aerator	
SAE of Aeration System	3.0 lb O ₂ /Hp-hr	1.8 kg O ₂ /kW-hr
	Existing aerators	
Aeration Power Required	6.8 Hp/basin	5 kW/basin
	One additional	

Section 4: Mixing System Design

Design Mixing Intensity	5 Hp/MG	1.0 W/m ³
Mixing Power Required	113 Hp/basin	8.4 kW/basin

Blue Lake Wastewater Treatment Facility
 Brewery Loading
 Winter Conditions
 Basin 1A

Prepared By SMF

11/6/2013

Section 1: Process Parameters

Peak Day Flow	0.4 MGD	
Influent BOD ₅	108 mg/l	
	360 lb/day	164 kg/day
Design Effluent BOD ₅	65 mg/l	
	216 lb/day	98 kg/day
Influent NHrN	11 mg/l	
	37 lb/day	17 kg/day
Design Effluent NHrN	11 mg/l	
	35 lb/day	16 kg/day
Basin Temperature (Max)	54 degrees F	12 degrees C
Elevation	100 ft MSL	30 m MSL

Section 2: Basin Geometry

Pond 1A

Total Volume	0.91 MG	3,445 m ³
	2.28 days @MMWWF	
AOR Calculation		
BOD ₅ Removed	144 lb/day	65 kg/day
NH ₃ -N Removed	1 lb/day	1 kg/day
	2.5 lb O ₂ /lb BOD ₅	2.5 kg O ₂ /kg BOD ₅
	4.6 lb O ₂ /lb NH ₃ -N	4.6 kg O ₂ /kg NHrN
Total AOR to system	366 lb O ₂ /day	166 kg O ₂ /day

SOR Calculation

$$SOR = \frac{(AOR)(C_{ao})}{(t)(P - C_e - C_o) \cdot 11.024} \text{ }^{\circ}$$

Where:

t _i	0.80 •	C _e =	10.71
	0.95 •	C _o =	2.0
T	1.17	C _{ao} =	9.17
n	1.00	Temp =	12

Therefore:

SOR =	620 lb O ₂ /day	282 kg O ₂ /day
SOR =	26 lb O ₂ /hr basin	12 kg O ₂ /hr basin

Type of Aerator Aerator

SAE of Aeration System	2.5 lb O ₂ /Hp-hr	1.5 kg O ₂ /kW-hr
Aeration Power Required	Existing aerators 10.3 Hp/basin One additional	7.7 kW/basin

Section 4: Mixing System Design

Design Mixing Intensity	5 Hp/MG	1.0 W/m ³
Mixing Power Required	4.6 Hp/basin	3.4 kW/basin



DATE: OCTOBER 15, 2013
TO: STEVE DONOVAN, P.E, SHN CONSULTING ENGINEERS
FROM: RICHARD A. SAMPLE, P.E.
PROJECT: BLUE LAKE WWTP - MRB EXPANSION STUDY
SUBJECT: ELECTRICAL REVIEW AND RESPONSE

On Friday, September 20, I performed a site visit and documented the existing plant electrical. was able to open all equipment, with the exception of the plant service disconnect switch, photograph and take notes regarding ratings / loads and record actual voltage readings using a multi-meter probe as necessary for my work.

As requested, I have evaluated the existing overall plant power system to determine it's ability to support additional aeration mixer equipment.

My response is as follows:

1. The existing plant power service is limited to 100A at 230V, 3-phase by the service disconnect switch. The conductors, with illegible rating labeling, appear to be sized for 100A also. The conduit coming from the utility pole is 2 inch diameter, large enough for a 200A service but the conductors appear (visually from the ground) to be sized for 100A.
2. The pole-mounted utility service transformers are an Open-Delta configuration made up of (1) 15KVA (labeled) single phase transformer and (1) 25KVA (assumed based on size as is unlabeled). These two transformers combined create a three phase secondary service derived from a single phase primary overhead utility distribution system. The transformer combined rating of 45KVA is undersized for the calculated plant load of 51KVA, but it is not uncommon for utility companies to serve loads above the transformers rating.
3. The addition of either (2) 5 HP aeration mixers or (1) 7-1/2 HP aeration mixer will create an overall plant loading which exceeds the capacity and rating of the plant service.
4. The existing plant service panel is rated 200A, and as such would not require replacement.
5. The attached load calculation show loading of the plant based on a combination of existing loads and (2) new 5HP aeration mixers.
6. The attached overall plant power One-Line Diagram shows the plant as it would be configured with the additional mixers. Associated notes giving additional information and a description of work to be performed are listed on a separate attachment.
7. The attached cost estimate shows a breakdown of construction costs for reference purposes.

Attachments:

Load Calculations
One-Line Diagram
One-Line Diagram Notes
Construction Cost Estimate

Richard Sample Engineering

PROJECT: WWTP - MRB EXPANSION STUDY

OWNER: CITY OF BLUE LAKE

BY: RICHARD A. SAMPLE, P.E.

DATE: 10/15/13

JOB NO: 1306

ENGINEERING REPORT PHASE

[illegible]

LOAD CALCULATION SUMMARY

<u>CONNECTED LOAD - with future loads (shown shaded)</u>	KVA	AMPS
UTILITY SERVICE TOTAL AT 480V, 3-PHASE	59.9	139.0
 DEMAND LOAD - with future loads (shown shaded)	KVA	AMPS
UTILITY SERVICE TOTAL AT 480V, 3-PHASE	50.9	118.0

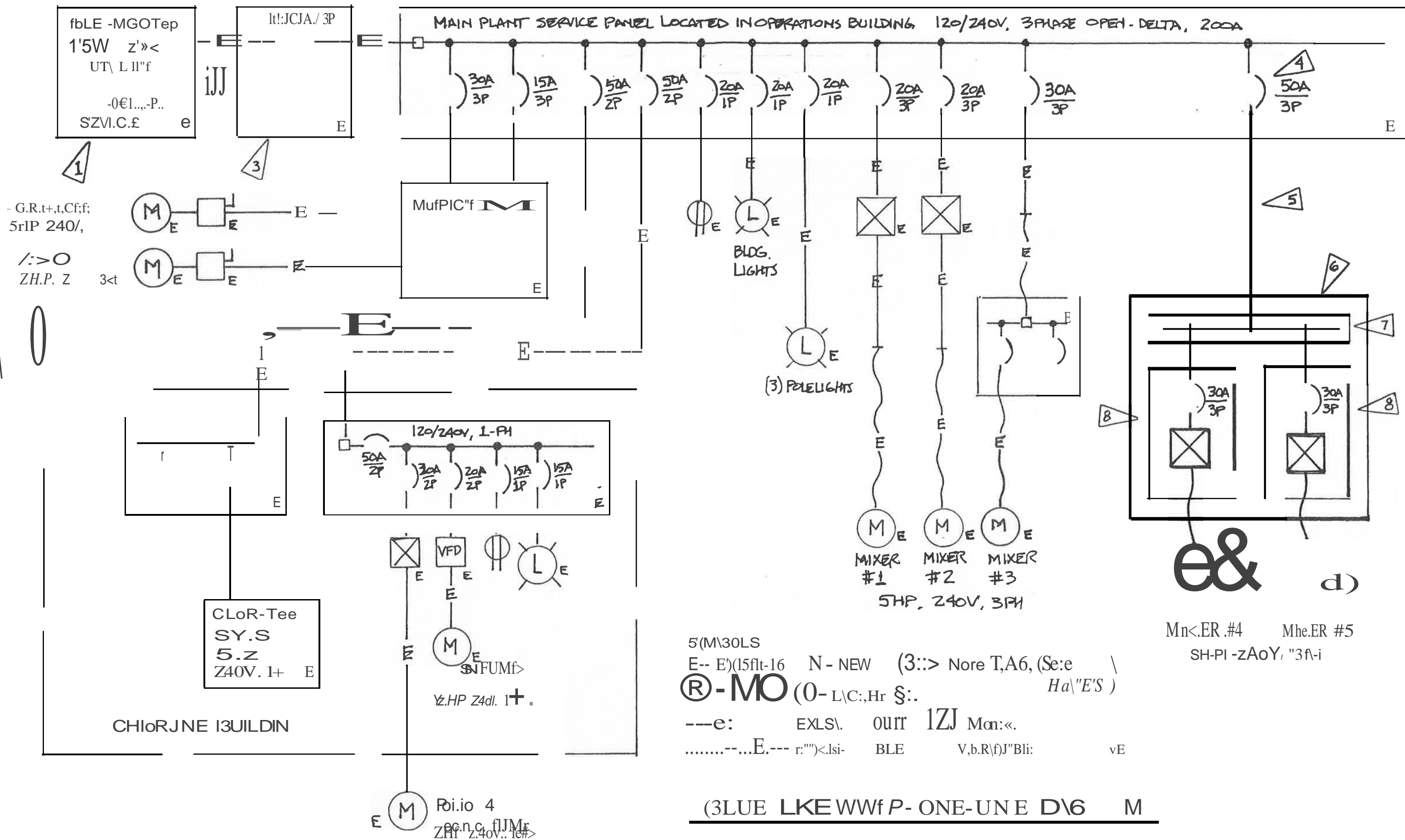
MINIMUM SERVICE DESIGN RATING: $1.25 \times 118A = 148A$

COMMENTS NOTES:

- 1 Equipment proposed by SHN Engineers included for system capacity sizing
- 2 Future equipment included for system capacity sizing
- 3 Equipment operates continuously, manually operated
- 4 Equipment operates intermittently on automatic controls.
- 5 Equipment operated from packaged control panel.
- 6 Estimated loads based on panel schedules and field observations
- 7 Load factor based on National Electric Code loading requirements

_____,
_____, shaded data indicates equipment to be added

3A/ 0



e& d)

Mn<.ER.#4 Mhe.ER #5
SH-PI -ZAoY, "3ft-i

Blue Lake WWTP One-line Diagram Notes

Note 1

Existing pole-mounted utility transformers are configured in an "Open-Delta" arrangement in order to provide three phase secondary power from a single phase primary distribution system. The utility company may choose to upgrade the transformers to serve the expanded plant loading, but it is likely that the transformers will remain as existing.

Note 2

Access to conductors at termination within the service disconnect was not possible during site visit without shutting down all power to the plant. Conduit was measured as 2 inch on building exterior which is adequate for carrying conductors rated for expanded plant loads. Existing conductors may need to be replaced with new 4/0 conductors if found to be undersized for service rated 200 ampere. Construction cost estimate is based on replacement of existing conductors with new.

Note 3

Existing service disconnect switch rated 100 ampere, 600 volts, is to be replaced with a heavy duty, service rated, fused disconnect switch rated 200 ampere, 240 volts, three phase.

Note 4

New bolt-on breaker to be provided in existing panel 3-pole space position.

Note 5

New feeder of approximate length of 250 feet is to be routed underground from the main building to new equipment rack location. Feeder is to be (3)#6, (1)#10G routed in Schedule 80 PVC conduit. Conduit is to be buried at 18 inches below grade in existing roadway. Existing asphalt will be cut, removed and replaced with new.

Note 6

New equipment rack located at corner of roadway, approximately 50 feet farther from Operations Building than Mixer #3 post mounted breaker panel.

Note 7

NEMA 4X rated wireway to be provided.

Note 8

Combination motor starter in NEMA 3R enclosure, including fused disconnect switch, NEMA starter, ON-OFF selector switch, run & fail indicating lights.

Note 9

New jacketed cable furnished by mixer manufacturer.

ELECTRICAL CONSTRUCTION COST ESTIMATE BACKUP

Richard Sample Engineering

PROJECT: BLUE LAKE WWTP - MRB EXPANSION STUDY

DATE: 10/15/13

ESTIMATE BY: RICHARD A. SAMPLE, P.E.

JOB NO: 1307

BASE RATES: CONTRACTOR: \$60/HR, INTEGRATOR: \$110/HR ESTIMATE PHASE: Prelim. Engr. report

RSMeans 2013 city cost index multiplier city: Eureka, California

NO	DESCRIPTION	QUANTITY		MATERIAL		LABOR		TOTAL
		MEASURE	UNIT	PER UNIT	TOTAL	PER UNIT	TOTAL	
1	DEMOLITION							
a	Service breaker removal	1	JOB	50.00	50	240.00	240	290
a	Wire: THHN, copper - No. 4/0	300	LF	4.95	1,485	1.91	573	2,058
b	200A heavy duty service disc switch	1	EA	1,400.00	1,400	280.00	280	1,680
c	panel terminations	1	JOB	0.00	0	120.00	120	120
3	MIXER ELECTRICAL							
a	Trench and backfill 18"D, 18"W	250	LF	3.00	750	3.00	750	1,500
b	Asphalt replacement	250	LF	5.00	1,250	4.00	1,000	2,250
c	Conduit: Schedule 80 PVC - 1-1/2"	250	LF	4.15	1,038	4.66	1,165	2,203
d	Wire: THHN, copper - No. 6	800	LF	0.63	504	0.65	520	1,024
e	Wire: THHN, copper - No. 10	270	LF	0.24	65	0.42	113	178
f	3/4 x 48"x 48" UHMW backboard	1	EA	200.00	200	120.00	120	320
g	3" GRC posts with cap	2	EA	25.00	50	60.00	120	170
h	18"D x 30"H concrete post base	2	EA	20.00	40	60.00	120	160
i	Stainless steel channel & hardware	1	JOB	50.00	50	120.00	120	170
j	4"x4"x36" Stainless steel wireway	1	EA	200.00	200	60.00	60	260
k	NEMA 4X Combination controller	2	EA	2,300.00	4,600	240.00	480	5,080
l	50A, 3-pole feeder breaker	1	EA	60.00	60	120.00	120	180
4	MISCELLANEOUS CONTRACTOR SERVICES							
a	Electrical permit application	1	JOB				300	300
b	Coordination with power utility Co.	1	JOB				240	240
c	Product submittals	1	JOB				360	360
d	Startup and testing	1	JOB				480	480
	Drawing Asbuilts	1					240	240
	SUBTOTAL				11,691		7,281	18,973
	RS Means city multiplier: Eureka				1		1.14	
	SUBTOTAL				11691		8301	19992
	CONTINGENCY (@ 15%				1754		1245	2999
	OVERHEAD @ 16%						1527	1527
	PROFIT (@ 10%				1344		955	2299
	ELECTRICAL SUBCONTRACTOR TOTAL							\$26,817

Item 5

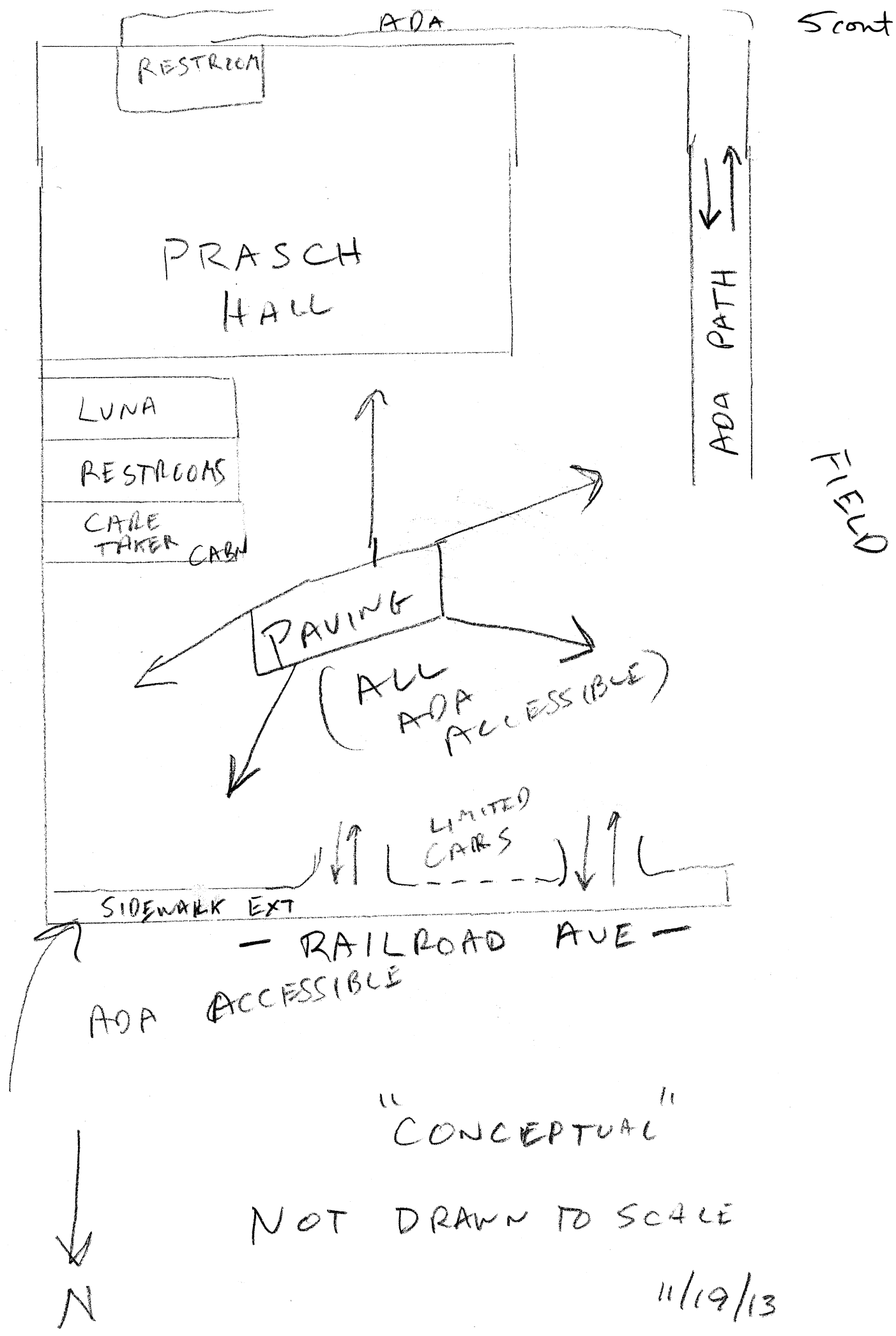
To: Mayor and Councilmembers
From: John Berchtold, City Manager
Date: November 13, 2013
Subject: Authorization to Request CDBG Program Waiver for ADA
Improvements (Park facilities)

Please find enclosed the application to request a CDBG Program Income Waiver that will be submitted to the State Housing and Development Division. Funds are actually on hand at the City. The waiver, once approved, will allow funds to be utilized for ADA improvements. If unapproved, funds would be utilized for housing rehabilitation.

City Council for a number of years has directed staff to locate funding for Park facilities. This is a unique opportunity.

I recommend your authorization to submit the waiver request.

Scout



**DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
DIVISION OF FINANCIAL ASSISTANCE**
Community Development Block Grant (CDBG) Program

1800 Third Street, Suite 390
P. O. Box 952054
Sacramento, CA 94252-2054
(916) 552-9398
FAX (916) 319-8488


**CDBG PROGRAM INCOME-FUNDED
WAIVER REQUEST
- PROJECT -**

JURISDICTION: <u>City of Blue Lake</u>	CONTACT PERSON: <u>John Berchtold</u>	PHONE: <u>7076685655</u> EMAIL: <u>citymanager@bluelake.ca.gov</u>
DATE SUBMITTED BY JURISDICTION: <u>11/19/13</u>	CDBG REPRESENTATIVE: <u>Max Emami</u>	

1. INDICATE CDBG ACTIVITY and MATRIX CODE TO BE FUNDED WITH THIS PROGRAM INCOME WAIVER:

Activity: _____
Matrix Code: _____

☒ **CD PROJECT**

☐ **ED PROJECT**

2. INDICATE PROJECT FUNDING SOURCES:

A. TOTAL PROJECT COST: \$100,000.00

B. TOTAL CDBG PI WAIVER FUNDS REQUESTED: \$100,000.00

C. TOTAL NON-CDBG FUNDING COMMITTED: \$0.00

Sources of Other Committed Funding: (Indicate each funding source.)

(i) 0

(ii) 0

D. TOTAL OTHER FUNDING NEEDED: \$ 0

Funds needed but not committed: (Not included in A. or C. above.)

(i) Add description: n/a

E. INDICATE WHERE R.L.A. FUNDS WILL BE DRAWN FROM:

☒ **Housing Rehabilitation Single-Family:** \$100,000.00

☐ **Homeownership Assistance:** \$ _____

☐ **Business Assistance:** \$ _____

☐ **Microenterprise:** \$ _____

3. ACTIVITY DESCRIPTION: (Be sure to fully answer A. and B. below.)

A. INDICATE ADDRESS OF PROJECT: 312 S. Railroad
Blue Lake, CA 95525

B. REASON CDBG PI WAIVER IS BEING REQUESTED:

There is an urgent need to remove architectural features so that accommodations can be made to this year-round facility so that individuals with disabilities can access the community recreation center, ball field, concession stand, music venue, child care facility, northern exterior bathrooms, and southern exterior restrooms

C. PROPOSED PROJECT: (Aggregated Scope of Work for entire project.)

At appropriate ADA grades: construct sidewalk extensions, paving, to accommodate access to all facilities above, drainage and ramping appropriate to southern exterior restrooms

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT**DIVISION OF FINANCIAL ASSISTANCE****Community Development Block Grant (CDBG) Program**

1800 Third Street, Suite 390

P. O. Box 952054

Sacramento, CA 94252-2054

(916) 552-9398

FAX (916) 319-8488

**D. SCOPE OF WORK FOR CDBG FUNDING:**

At appropriate ADA grades:construct sidewalk extensions, paving,to accomidate access to all facilities above,
drainage and ramping appropriate to southern exterior restrooms

E. TIMELINE OF PROPOSED PROJECT:2014-2015

CDBG PROGRAM INCOME-FUNDED WAIVER REQUEST - PROJECT -

JURISDICTION: _____

4. ELIGIBILITY:**A. NATIONAL OBJECTIVE:**

- 1) ☒ Low/Moderate Income Benefit (*Low/Mod*)
 2) ☐ Elimination of Slums & Blight:
 ☐ Area Basis ☐ Spot Basis
 3) ☐ Urgent Need

B. HUD LOW/MOD BENEFIT:

National Objective must be met by either:

- 1) Beneficiaries being income restricted;
 2) Beneficiaries being members of a Limited Clientele; or,
 3) Service area being primarily Low/Mod individuals (>51%).

Check the box that describes how this Public Service Program will meet the National Objective, and describe the details requested.

- ☐ Income Restricted (*100 percent HUD Low/Mod Income*)
☒ Limited Clientele: (*Public Facility Only*)
 List Type(s) of Limited Clientele: Seniors and severely handicapped
☐ Primarily Low/Mod:
 List % of total: _____
 ☐ Based on HUD Low/Mod Charts
 ☐ Based on Income Survey
☐ Jurisdiction-Wide ☐ Service Area
 Explain Benefit in Activity: _____

C. NUMBER OF BENEFICIARIES:

81% and Above:
(Non HUD
Low/Mod Income
(Not eligible)

80% and Below:
(HUD Low/Mod
Income)

50% and Below:
(HUD Very
Low/Mod
Income)

TOTAL:

597 persons
(54.6%)

496 persons
(45.4%)

298 persons
(27.3%)

194 disabled
persons

D. DESCRIPTION OF SERVICE AREA:

Submit Map(s) and Identify:

- (1) Census Tract/ Block Group;
and,
(2) Zoning in description

Note: Service area information is needed regardless of which Low/Mod benefit is being used.

- ☐ Entire Jurisdiction
☒ Service Area(s):
 Describe Service Area of Project: City of Blue Lake park grounds
 Map Included: ☒ Yes ☐ No

CDBG PROGRAM INCOME-FUNDED WAIVER REQUEST - PROJECT -

JURISDICTION: _____

5. PLEASE DESCRIBE THE STATUS OF THE FOLLOWING SPECIAL CONDITIONS:

DAVIS BACON COMPLIANCE:	<input type="checkbox"/> Davis Bacon and Related Acts is triggered by this project (including Prevailing Wage): <input type="checkbox"/> Labor Standards Compliance Officer will be in-house Jurisdiction staff member <input checked="" type="checkbox"/> Labor Standards Compliance Officer will be procured under Federal guidelines <input type="checkbox"/> Davis Bacon and Related Acts is <u>NOT</u> triggered by this project (include explanation and supporting documentation)
ENVIRONMENTAL AND NEPA COMPLIANCE:	Jurisdiction has completed the Environmental Finding Form and the Level of Determination indicates the NEPA review will be: <input type="checkbox"/> Exempt <input type="checkbox"/> Categorically Excluded, Subject to 58.6 <input type="checkbox"/> Categorically Excluded, NOT Subject to 58.6: <input type="checkbox"/> Statutory Worksheet <input type="checkbox"/> Environmental Assessment <input type="checkbox"/> Environmental Reviewer and Certifying Officer will be members of Jurisdiction staff <input checked="" type="checkbox"/> Environmental Review Consultant will be procured under Federal guidelines. <u>And</u> , Certifying Officer will be in-house member of Jurisdictional staff
CITIZEN PARTICIPATION:	Indicate the status of each of the following: Public Notice: <input type="checkbox"/> Completed <input checked="" type="checkbox"/> Not Completed Comments: _____ Resolution of the Governing Body (Authorizing submittal of PI Waiver Request, designating the Authorized Representative and approving transfer of funds): <input type="checkbox"/> Completed <input checked="" type="checkbox"/> Not Completed Comments: _____

6. COMPLIANCE OF SPECIAL CONDITIONS UPON APPROVAL:

RELOCATION COMPLIANCE:	<input type="checkbox"/> If this project triggers Relocation, the Jurisdiction will comply with the Uniform Relocation Act, Section 104(d) before a release of CDBG PI funds occurs. <input type="checkbox"/> If this project triggers Relocation, the Jurisdiction will submit a specific Assistance Relocation Plan for this activity prior to releasing CDBG PI funds. <input checked="" type="checkbox"/> This project will not involve Relocation and, therefore, the Jurisdiction will submit a letter explaining why no displacement or relocation will occur.
SITE CONTROL:	<input checked="" type="checkbox"/> Upon approval, the Jurisdiction will demonstrate site control of the proposed property by submitting evidence to the Department. <input type="checkbox"/> Other – Describe: _____
FUNDING COMMITMENTS:	<input checked="" type="checkbox"/> The Jurisdiction will demonstrate that all funding required for project completion must be documented and committed before a release of CDBG PI funds occurs. (<i>Must verify information in Section 2 C. above.</i>)
PI WAIVER ADMINISTRATION:	<input checked="" type="checkbox"/> The Jurisdiction understands that, upon approval of this CDBG PI Waiver, it will provide documentation which indicates the activity administrator for the CDBG PI Waiver activity. If procured, the Jurisdiction will provide documentation of the procurement method used (per 24 CFR 85.36).
PROGRAM INCOME REUSE PLAN:	<input checked="" type="checkbox"/> The Jurisdiction understands that, upon approval of this CDBG PI Waiver, a copy of a new or revised Program Income Reuse plan to include the CDBG PI funded project must be submitted to the Department for approval before a release of CDBG PI funds occurs.
SECTION 504 ACCESSIBILITY REQUIREMENTS:	<input checked="" type="checkbox"/> The Jurisdiction understands that Section 504 Regulations apply when CDBG funds are used on a public facility project or when an existing Public Facility or Housing Project with fifteen (15) or more units is being purchased and/or "substantially" rehabilitated. Qualified CDBG-assisted Housing Projects are required to have a certain percentage of the units designed for and accessible to persons with mobility and sensory impairments.
OTHER:	_____

**CDBG PROGRAM INCOME-FUNDED
WAIVER REQUEST
- PROJECT -**

On behalf of the City/County of: Blue Lake **I submit this CDBG Program Income Waiver Request and understand that, upon approval, all applicable Special Conditions must be met and all federal overlay requirements must be complied with.**

Authorized Representative Signature: _____

Date: 11/19/13

Print Name and Title of Authorized Signer:

John D. Berchtold

Print Name of Preparer: John D. Berchtold

Date: 11/19/13

Additional Comments: Blue Lake is a very small community of 1,248. It has very limited General Fund funding. This project has been identified in the City's Strategic Plan as being a critical need. We are fortunate that the State has the PI Waiver so we can accommodate those residents and visitors with disabilities. This facility is also utilized by other residents of Humboldt County, most of whom come from a 15 mile radius. Our estimate of \$100,000.00 comes to you after meeting with our City Engineer, Public Works Staff, and Park Staff.

(FOR USE BY CDBG PROGRAM ONLY)

JURISDICTION: _____

7. PROJECT APPROVAL:

☐ APPROVED

☐ CONDITIONALLY APPROVED

Activity Eligibility 105(a): _____

☐ NOT APPROVED Date: _____

8. CONDITIONS FOR APPROVAL OR REASONS FOR NOT APPROVING:

CDBG Representative: _____

Date: _____

CDBG Program Manager: _____

5 cont.
Date: _____

CDBG Section Chief: _____

Approved Date: _____



CITY OF BLUE LAKE

Post Office Box 458,
Phone 707.668.5655

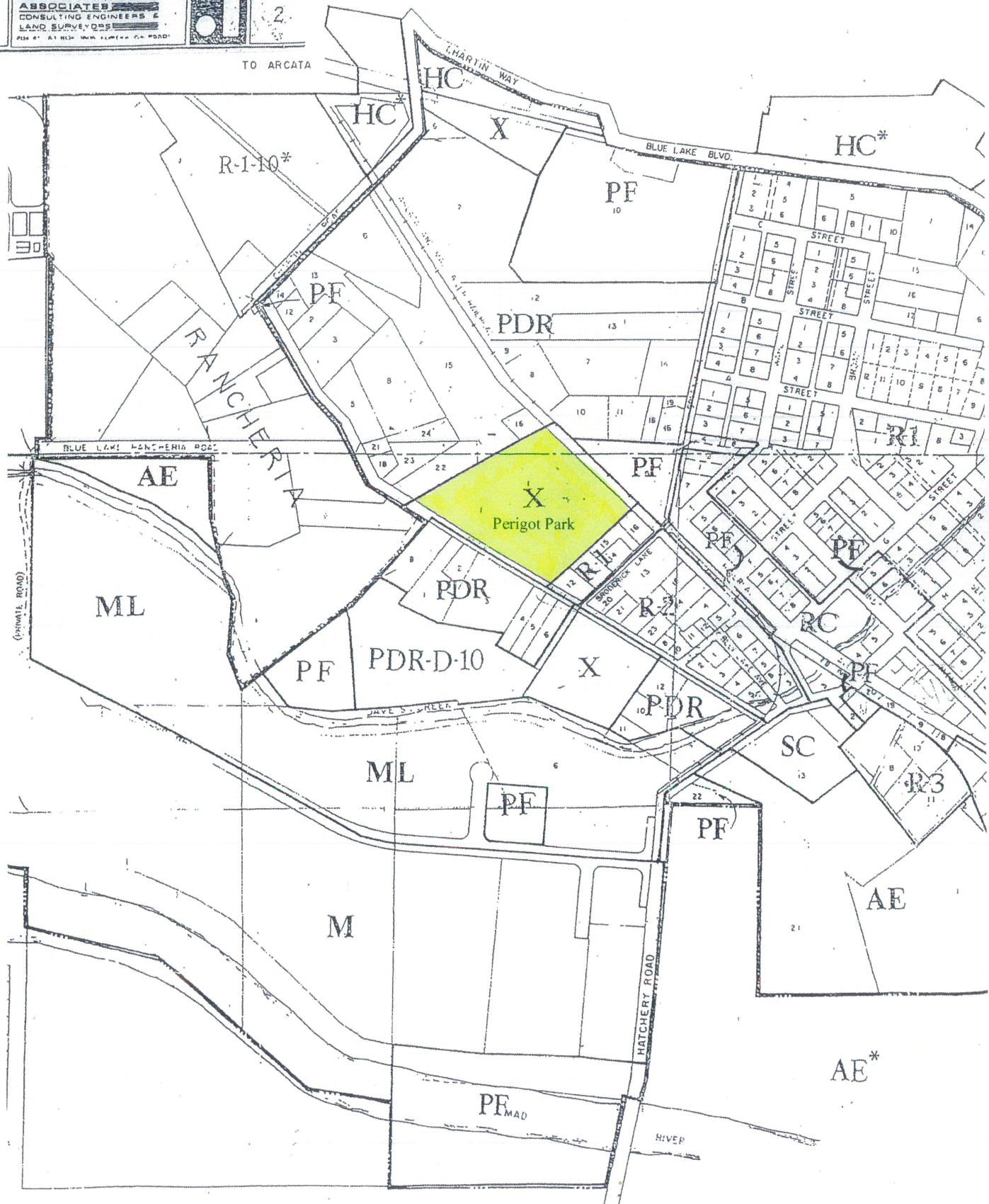
111 Greenwood Road,

Blue Lake, CA 95525
Fax 707.668.5916

Attached is the 2010 Census Block Map for Blue Lake. The "Census Tract" for the City is 103 and the "Census Block" that includes Perigot Park is 3052. Also attached is a modified version (8.5" x 11") of the City's Zoning Map which shows the zoning for Perigot Park. The Park is zoned Open Space/Recreation or "X" zone. Let me know if you need any additional information.



APPROVED BY					
APPROVED BY					
DATE	K.G.D.	NO	DATE	REVISIONS	BY
DATE	APR '84				
SCALE	1" = 200'	THE CITY OF BLUE LAKE			JOB NO. 15995
DWG	SLO	ZONING MAP SECTION 9305			SHEET 1
CHKD BY	K.G.D.	OSCAR LARSON & ASSOCIATES CONSULTING ENGINEERS & LAND SURVEYORS P.O. BOX 101, BLUE LAKE, CA 95005			2



To: Mayor and Councilmembers
From: John Berchtold, City Manger
Date: November 13, 2013
Subject: Presentation by Michael Fields, Dell Arte

Michael intends to make a presentation regarding the recent Harvest Festival, future activities and some thoughts regarding Humboldt Made.

No action is requested.

To: Mayor and Councilmembers
From: John Berchtold, City Manager
Date: November 14, 2013
Subject: Award for "Wastewater Plant of the Year"

This award was presented by the California Water Environmental Association (North Coast Region) for the 2013 improvements made at the sewer plant (dikes and weirs). This is a major accomplishment for such a small community as Blue Lake.



**California
Water
Environment
Association**

and its

NORTH COAST SECTION

present to

CITY OF BLUE LAKE



this

Plant Of The Year Award

Less than 5 MGD

2013

City of Blue Lake

City Council Agenda

Item#: 8

Date: 19 November 2013

Subject: SHN Greenwood Road Geometric Assessment Report of Findings Re-Visited with Recommended Changes

To: City Council and Staff
From: Sherman Schapiro, Blue Lake resident
Attachment: Bring your SHN Study

Background: In July of this year, the City Council received an SHN Study with subject: Greenwood Road Geometric Assessment Report of Findings. As part of his introduction to this agenda item, the City Manager noted that:

"This study is a precursor to funding for the re-building of Hatchery and Railroad roads. In other words, this places us in a "ready" mode should federal funds become available."

I pointed out some initial concerns with this report at the July meeting and I am now able to list what I believe are 3 flaws with the report. Additionally, I list several possible low-cost improvements at the intersection that could be implemented now. I am also presenting a petition signed by over 40 Blue Lake residents, including most households/property owners who live or own property in close proximity to the project area, that shows near unanimous opposition to the recommended Option 2 design. The individuals saw the project as being unnecessary adding their concern that much of the traffic along this corridor already goes too fast and the recommended improvements will only allow for greater speeds. Furthermore, the signers are opposed to any design change that could lead to increased speeds. I would make note from the report that accidents have not been a problem at the intersection.

Discussion: I see 3 major problems with the SHN study that need addressing and I list also additional information, comments, and suggestions as well.

1. I feel the comments in the manager's report are an overstatement which goes beyond the scope of the prepared study. The study was very limited as the title states (A Geometric Assessment). It did not consider a number of factors including community and environmental impacts of the project. The study also did not look at any alternatives some of which might easily be implemented in the near future, and in a less costly manner. Yet, the report recommends options which then the manager's notes state puts the City in "ready" mode.

I believe that for the SHN study and its conclusions to be interpreted correctly, the limits of the study need to be spelled out at the beginning. I would recommend the addition of a qualifying paragraph at the start of the study which would reflect the true status of the report. Perhaps something such as:

"This current study is limited in scope to a geometric assessment and should be considered quite preliminary. A more complete study including environmental and other impacts as well as public input would need to be completed and accepted by the City Council before any recommendations including those herein could be taken as conclusive or definitive, let alone as being indicative of a "ready mode" project."

Item 8 cont.

2. The report has a significant omission. It gives no consideration to the physical presence of the residential structure at 110 Greenwood. If one goes out to the E Street corner, one will see that this structure seriously limits the view at the intersection regardless of modification. But this was not mentioned in the text. Furthermore, this structure was omitted from Figures 2, 8, and 9 depicting the intersection; the latter two of which show possible intersection design changes. Because of this, the drawings do not truly reflect the impact that the changes might have on the property. In fact, it appears that Option 1 in Figure 8 might very well put the roadway through much of the structure itself. When I asked about this omission at the July meeting, I was told that SHN never gathered the measurements necessary to include this structure in the drawings. I believe this is a serious flaw/omission in the report and the report is incomplete without visually showing these impacts. The current drawings make it appear that the City is dealing with an empty lot which is both incorrect and definitely misleading.

3. The study also omits the required stopping sight distance for a 15 mph rated turn which is the current configuration. If it is 125 ft at 20 mph as reported, could it be that the current 90 ft sight distance is sufficient for the intersection as it stands? Also, would this sight distance increase if measure 5.a) listed below were implemented?

4. I would make note from the petition that there is overwhelming opposition to any change allowing increased speeds from those who would be most affected by these changes. This would include opposition to the "recommended" Option 2 design,

5. I would recommend that the Council members and City staff go out and look at the corner at E Street. When there, consider the following possible recommendations some of which should be considered independently.

a) Move the Stop Line outward 10' or more for better visibility. In order to proceed safely, most drivers must pull out that far anyway so the Stop Line should be moved to accommodate this. For reference, check out the position of the Stop Line at the other corner at E and First as well as the fenced corner at Hartman and Blue Lake Boulevard.

b) E Street is a lightly trafficked road. The vast majority of traffic on E Street turns off Greenwood toward 1st Avenue. Make E Street one way towards First in the right hand lane as presently configured. Redesign the other lane into a bike-pedestrian way. This eliminates most of the visibility problems as turns off E Street would no longer be possible.

c) With appropriate truck route signage, put in a crosswalk across Greenwood from the E Street corner to the City Hall parking lot corner for travel to and from City Hall and the Park. Many cross here now.

d) Put in larger signage on the truck route turn showing the recommended 15 mph speed limit. The "15" on the current signage is too small. When I mentioned this to those I spoke with, most never had noticed the number 15 was there. As far as travel times go, the difference between going 100 yards at 30 vs. 15 mph is roughly 7 seconds. I doubt that actual traffic speeds are affected that much at the intersection but this shows how negligible such speed changes are on travel time.

6. For the sake of clarity for both the public and City Council, I would ask what official steps would the City need to take to apply for a grant and also implement a change such as the Option 2 design for example? What are the required environmental or community impact studies, public noticing and hearings, etc?

Possible Actions: I would recommend to the City Council that it officially find that the current report is incomplete and needs amending. Specifically, I would request that the changes noted in 1., 2., and 3. above be made. This includes taking the necessary measurements to modify the figures to show the presence of the structure at 110 Greenwood. I would also request that the City Manager make a finding that the options presented are preliminary and not what one would call "ready" as they are the findings of a very limited study. Many more steps would be needed before a "ready" design can be put forward. Upon conclusion, the amended report should be passed on to HCAOG who paid for the study.

I would also suggest that the Council direct staff to acquire the information to answer the question raised in point 6. Since Staff has already begun a process to be "ready" to look at the truck route and federal grants, I think the Council and public should have an understanding of the steps required to get a grant and get a design approved by the City Council.

I invite you to go out and examine this intersection yourself. I provide the list of recommendations in 5.a) through 5.d) for the City's consideration. I do think that items a), c), and d) would be a benefit to the residents of Blue Lake and have merit at this time.

Petition Opposing Greenwood-Railroad Intersection Changes

We the undersigned Blue Lake residents or property owners oppose any physical changes to the Greenwood Road - E Street - Railroad Avenue - Broderick Lane intersection including those being currently proposed. We believe such changes would allow for increased speed on the Greenwood - Railroad route through the intersection that would carry over throughout the entire length of the primarily residential corridor making the entire route less safe for both drivers and pedestrians. The current configuration requires reduced speed at the intersection, and as such, acts as built-in traffic-calming for the route's entire length. Designs that allow increased speeds through the intersection would have the opposite effect. Accidents at this intersection have been rare so we see no need for physical changes, but we do recommend better signage of the posted reduced speed limit along the curved path through the intersection itself to encourage safer driving.

Print Name

Signature

Blue Lake Street Address

COMPLETED COPIES WILL BE PASSED OUT AT THE COUNCIL MEETING.

FROM COUNCILMEMBER LANA MANZANITA

- HWMA's purposed Legislative Goals: Background- HWMA has decided that the Board should be in the "driver's seat" in selecting the kind of legislation, both federal/state that they want to support this year. A sub-committee (Lana Manzanita and Mike Newman) met with HWMA Director (Jill Duffy) and drafted the goals using HWMA's Strategic Plan as a guide.

Purpose: City Council members review materials and clarify/discuss these goals.

Action: Council reaches consensus on HWMA'S legislative goals.

Humboldt Waste Management Authority Proposed Legislative Goals

November 2013

This list is not comprehensive and could include additional topics and goals.

Support

Recycling

- Legislation towards the procurement of recyclable and recycled-content materials
- Promotion of source reduction measures.
- Strengthen manufacturer responsibility for electronic waste recycling and support local collection programs.
- Efforts to strengthen curbside recycling programs.
- Legislation that promotes reduced packaging and Extended Product Responsibility (EPR).
- Legislation and other efforts that promote use of multi-use bags by consumers and to reduce the prevalence of single-use bags in the environment.
- Legislation and other efforts that facilitate funding, collection and proper disposal of waste pharmaceuticals.
- Funding mechanisms to support diversion programs.

Materials Market Development

- Measures that promote market development of recyclable materials
- Legislation and other efforts to increase the markets for recycled materials, including advanced disposal fees, minimum content laws, and recycling market development zones.

Conversion Technologies

- Legislation encouraging use of organics anaerobic digestion and/or solid waste conversion technologies capable of minimizing the amount of solid waste sent to landfills, and do not impede or impair existing and planned recycling and waste reduction programs.
- Financial and other incentives to assist in implementing compliance programs using green technology including, but not limited to diversion credits for new technologies designed to convert waste materials into usable energy, renewable energy credits, tax credits, and greenhouse gas reduction credits.

Miscellaneous

- Encourage the streamlining of Cal Recycle grant programs and provide maximum flexibility to local government, including JPA's
- Encourage legislation for funding collection and management of pharmaceutical waste.
- Encourage 'green chemistry' initiatives promoting use of less toxic materials for material production.

Oppose.

- Oppose legislation that would preempt local land use authority over solid waste facilities, or otherwise restrict the ability of a county or city to issue a land use permit for a solid waste facility, or restrict the ability of a county or city to apply conditions to such facilities through the conditional permit process.
- Oppose legislation restricting the ability of local governments to regulate solid waste and recyclable materials.

FROM COUNCILMEMBER LANA MANZANITA

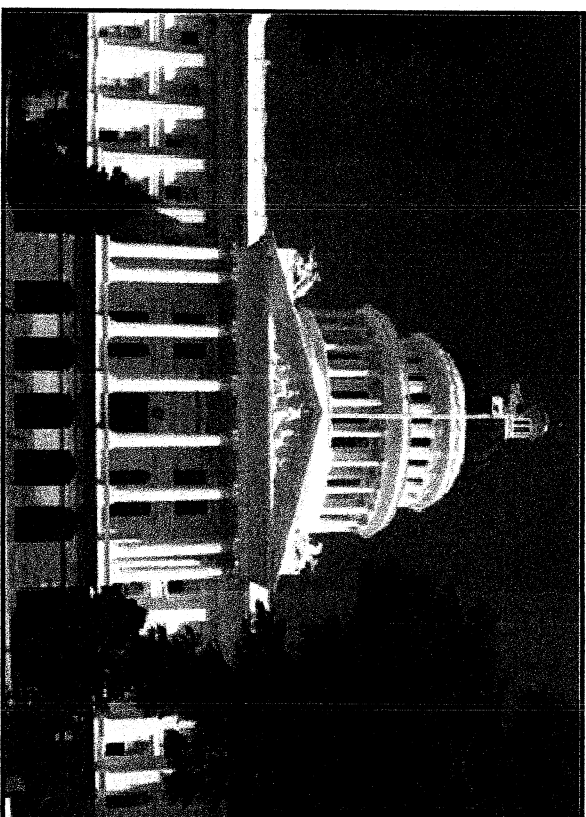
- Legislative Webinar Report: Background- This is a League report from the 2013 California legislation bills that was either supported or opposed by the League and their ramifications to cities. The report also contains the League's outlook for 2014 bills that are being considered by the Legislature.

Purpose: The Councilmembers review materials and ask questions concerning webinar.

Action: Discussion



2013 Legislative Briefing



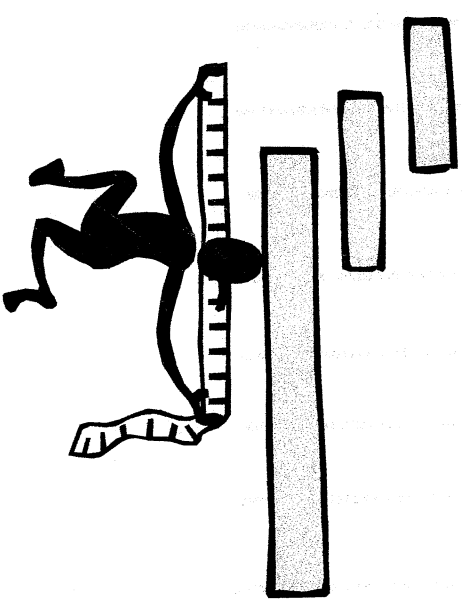
Webinar: November 6, 2013

9

Progress on League Strategic Goals

#1 Goal: *Develop and strengthen long-term relationships and partnerships with new and returning state policy-makers and other stakeholders.*

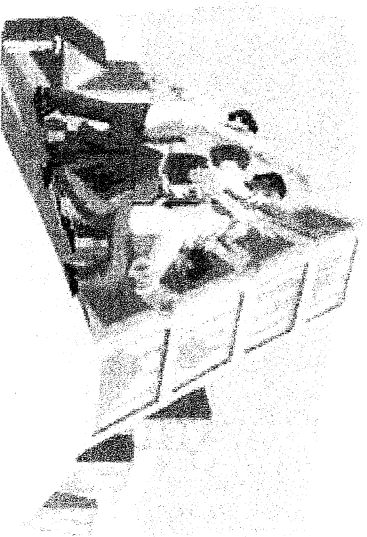
- *Regional divisions hosted meetings and receptions with new legislators.*
- *League leadership and lobbyists met with legislators in Sacramento.*
- *Relations strengthened with traditional partners in local government, business and other organizations.*



9 Progress on League Strategic Goals

#2 Goal: *Develop and advocate for new tools and funding options for community and economic development to support job creation, investment in public infrastructure, expansion of affordable housing, and increased funding for essential local services.*

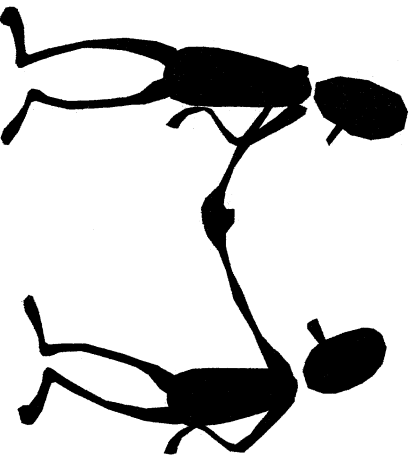
- As detailed earlier, this was a primary focus of the legislative efforts of the organization in 2013. The key challenge is getting the Administration to engage. Many bills are pending and can be pursued in the second year of the two-year session.



92 Progress on League Strategic Goals

#3 Goal: *Continue and expand upon recent efforts at pension and OPEB reform to ensure the long-term affordability and responsiveness of public services for city residents.*

- Participated and tracked administrative implementation of 2012 pension reform.
- Formed city advisory group to CalPERS.
- Internal city manager group continues to discuss options on OPEB issues.

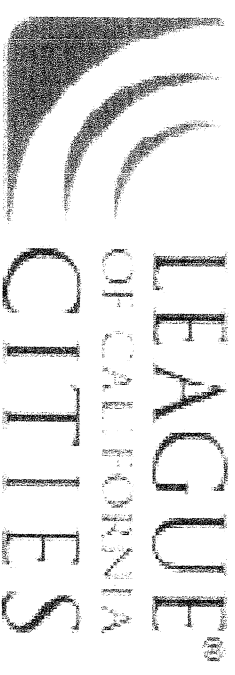


96

partners and the public can expect from the League, its products and services.

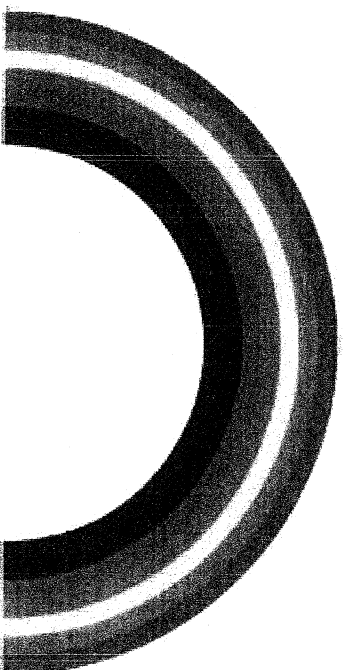


- *Formed taskforce.*
- *Conducted research.*



Initial conclusions: *The League retains a strong brand with local officials, policy makers and the press. Suggestions primarily focus on fine-tuning ways the organization communicates its brand, with its primary audience remaining city officials.*

Outlook for 2014



- Governor's re-election.
- Changes in legislative leadership.
- Water bond discussions.
- Lower vote thresholds.
- Time to make progress on economic development, infrastructure and affordable housing?

Housing, Community and Economic Development

Kirstin Kolpitcke, Legislative Advocate
kkolpitcke@cacities.org

26.

What to expect in 2014

- Regulation of Sober Living Homes.
- Regulation of Massage Establishments.
- More attempts to make changes to CEQA.

Administrative Services and Employee Relations

Natasha Karl, Legislative Advocate
nkarl@cacities.org

Looking Ahead to 2014

Issues on the Horizon

- Pension Reform Regulations and Possible Legislative Cleanup
- Additional Policy Changes at CalPERS that may impact employer rates (i.e., discount rate, mortality improvements).
- Collective Bargaining, PERB and “genuine impasse”
- Possible Brown Act Cleanup

96

Environmental Quality and Community Services

Jason Rhine, Legislative Advocate
jrhine@cacities.org



96

What to Watch in 2014

- Water Bond - Stormwater
- Single-use Carryout Bags
- Cap and Trade Auction Revenue
- California Safe Drinking Water Act
- Mandatory Commercial Organics Recycling
- Prop 39 Funding

Community Services

AB 265 (Gatto) Local Government Liability: Dog Parks (Pg. 22)

- Clarifies that a public entity that owns or operates a dog park will not be liable for injury or death of a person or pet resulting solely from actions of a dog in a dog park.

AB 465 (Bonilla) Youth Sports: Criminal Background Checks (Pg. 20)

- Clarifies that community youth athletic programs may request state and federal background checks, as well as subsequent arrest notification(s), for a volunteer coach or hired coach candidate.

What to Watch in 2014

- Improving Economy – Pressure to Fund Community Programs
- California Arts Council

9b.

Public Safety

Tim Cromartie, Legislative Advocate
tcromartie@cacities.org

96.

What to Watch in 2014

- Medical Marijuana
- Gun Control
- Corrections – Prison Population Management
- Identity Theft
- Wireless Cameras

Transportation, Communication, and Public Works

Jennifer Whiting, Legislative Advocate
jwhiting@cacities.org



What to Watch in 2014

- Transportation Funding
- Overweight Buses
- Online Transportation Companies
- Disabled Parking Placards
- Electric Vehicles
- Broadband Roll-Out
- UUT Collection for Prepaid Wireless Services
- MAP-21 Reauthorization

Revenue and Taxation

Dan Carrigg, Legislative Director
dcarrigg@cacities.org

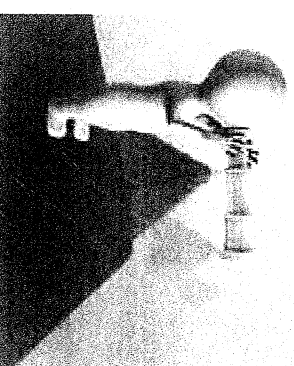


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Revenue and Taxation

Looking Ahead

- Fixing annexation/incorporation funding (SB 56)
- Lower vote thresholds.
- Use tax collection: Federal Marketplace Fairness Act.
- Prop 218 storm water clean up.
- Extension of dates on Controller's financial reporting forms.
- Moving forward on economic development.



From Council Member Manzanita:

- Develop a concrete “check off list” of tasks for Strategic Plan Goal of Expand Business in the Industrial/Business Park. Background- The Council has invested many meetings to this subject without a clear vision of what comes next and what elements should or should not be in our plan.

Purpose: Discuss this in some depth so that we can direct staff to help us develop a roadmap for this goal. There are no materials to review, but the pages under title Economic Development-Strategic Plan, seems to be a good place to start.

Action: Discussion followed by direction to staff.

To: Mayor and Councilmembers

From: John Berchtold, City Manager

Date: November 14, 2013

Subject: Grant Opportunity – Resurfacing of Railroad Avenue between E and G Streets

Mike Foget, City Engineer has been advocating for funding for resurfacing of Railroad Avenue. HCAOG has funding available for rehabilitation (re-surfacing). This is very rare and the governmental units in the County compete for these funds. As of this writing (Thursday), the Technical Advisory Committee of HCAOG is meeting to recommend project funding. If so recommended, I will bring this matter forward to City Council on Tuesday night. The next step is drafting of a Project Service Report (PSR) by the City Engineer for these two (2) blocks.

For clarification purposes, this project requires no re-alignment. Further, it is not in the area of concern cited by Mr. Schapiro.

City of Blue Lake
 Check/Voucher Register - City Council Check Report
 From 10/1/2013 Through 10/31/2013

Check Number	Check Date	Payee	Check Description	Check Amount
36190	10/4/2013	Amanda E. Arthington	Employee: arthingtona; Pay Date: 10/4/2013	27.40
36191	10/4/2013	John D. Berchtold	Employee: berchtoldj; Pay Date: 10/4/2013	2,314.03
36192	10/4/2013	Glenn R. Bernald	Employee: bernaldg; Pay Date: 10/4/2013	1,348.82
36193	10/4/2013	Harold D. Burris	Employee: burrish; Pay Date: 10/4/2013	1,227.18
36194	10/4/2013	Courtney D. Dexter	Employee: dexterc; Pay Date: 10/4/2013	313.09
36195	10/4/2013	Michael A. Gibson	Employee: gibsonm; Pay Date: 10/4/2013	233.63
36196	10/4/2013	Vivian S. Harp	Employee: harpv; Pay Date: 10/4/2013	191.83
36197	10/4/2013	Vicki L. Hutton	Employee: huttonv; Pay Date: 10/4/2013	1,001.72
36198	10/4/2013	Jacob P. Meng	Employee: mengj; Pay Date: 10/4/2013	595.05
36199	10/4/2013	Logan J. Morrow	Employee: morrowl; Pay Date: 10/4/2013	749.22
36200	10/4/2013	Kara A. Newman	Employee: newmank; Pay Date: 10/4/2013	1,092.57
36201	10/4/2013	Adrienne L. Nielsen	Employee: nielsena; Pay Date: 10/4/2013	1,012.96
36202	10/4/2013	Loren M. Thompson	Employee: thompsonl; Pay Date: 10/4/2013	104.14
36203	10/4/2013	Melissa M. Toledo	Employee: toledom; Pay Date: 10/4/2013	396.82
36204	10/4/2013	Robert Wojciechowski	Employee: wojciechowskir; Pay Date: 10/4/2013	36.54
36205	10/4/2013	Kernen Construction	9/30/13 inv no 48351 Dike Repair	215,583.98
36206	10/4/2013	Wendy Howard	Sep 2013 accounting services	396.06
36207	10/4/2013	John Roberts	Sep 2013 statement	710.00
36208	10/4/2013	Sudden Link	2-Oct 2013 statements	203.90
36209	10/4/2013	T. I. Smith Electric	9/18/13 inv no 1665-2013	255.00
36210	10/4/2013	Advanced Security Systems	9/23/13 statement	162.00
36211	10/4/2013	AT&T	2-9/20/2013 billings	63.42
36212	10/4/2013	City of Blue Lake	10/1/13 water/sewer billings	1,731.27
36213	10/4/2013	B & B Portable Toilet Co.	9/27/13 inv no 39R00052	76.50
36214	10/4/2013	CA State Disbursement Unit	10/4/2013 PR deductions - CS	132.46
36215	10/4/2013	Employment Development Dept.	UI, SDI & PIT 10/4/13 PR	631.95
36216	10/4/2013	Cal PERS	retirement pmt 10/4/13 PR w/adj.	3,594.54
36217	10/4/2013	D & R Janitorial Service	Sep 2013 janitorial services	295.00
36218	10/4/2013	Eureka Boiler Works	9/30/13 statement	93.81
36219	10/4/2013	GE capital	9/25/13 inv no 59499479	196.73
36220	10/4/2013	Humboldt County Tax Collector	7/1/13-6/30/14 property tax	47.90
36221	10/4/2013	Hensell Materials, Inc.	10/1/13 statement	17.97
36222	10/4/2013	The Mill Yard	9/30/13 statement	887.25
36223	10/4/2013	Mendes Supply Company	10/1/13 statement	212.87
36224	10/4/2013	Miller Farms Nursery, Inc.	9/30/13 statement	328.04
36225	10/4/2013	McKinleyville Ace Hardware	9/30/13 statement	364.47
36226	10/4/2013	Redwood Coast Energy Authority	May-Jun, Jul, Aug 2013 invoices RCEA-BL-SGC-4/5/6	2,046.00
36227	10/4/2013	Specialty Traffic Systems	10/1/13 statement	17.30
36228	10/4/2013	Three G's Hay & Grain	9/30/13 statement	119.00
36229	10/4/2013	US Bank Corp. Payment Systems	9/23/13 statement	1,755.26
36230	10/4/2013	Verizon Wireless	Aug 22-Sept 21, 2013 inv no 9711916248	478.75
36231	10/4/2013	West Coast Plumbing	10/1/13 statement	64.42
36232	10/4/2013	Pacific Gas and Electric	9/18/13 #5154205317-1 & 9/24/13 #9126744508-7	7,047.77
36233	10/16/2013	Streamline Planning Consultant	inv no's 12343, 12344 & 12357	5,173.22
36234	10/16/2013	ACWA/JPIA	Nov 2013 health insurance	14,407.35
36235	10/16/2013	Department of Justice	10/3/13 inv no 996998	32.00
36236	10/16/2013	Nancy Diamond	9/1/13 inv#1498 & 10/1/13 inv#1509	3,711.00
36237	10/16/2013	Humb. Bay Municipal Water Dist	Sep 2013 billing period	13,861.34
36238	10/16/2013	Kernen Construction	9/27/13 inv no 48272	1,039.24
36239	10/16/2013	LCC-Redwood Empire Division	9/19/13 inv no's 1269 & 1278	60.00
36240	10/16/2013	U. S. Postal Service	postage stamps	276.00
36241	10/16/2013	Arcata Scrap & Salvage	9/16/13 inv#3518 & 9/27/13 inv#3523	125.57
36242	10/16/2013	Kevin Benjamin	Sep 2013 meetings	60.00
36243	10/16/2013	Lana Manzanita	Sep 2013 meetings	120.00
36244	10/16/2013	Renner	9/30/13 inv no 250308	2,036.67

11a cont.

City of Blue Lake
Check/Voucher Register - City Council Check Report
From 10/1/2013 Through 10/31/2013

Check Number	Check Date	Payee	Check Description	Check Amount
36245	10/16/2013	Kara A. Newman	9/6/13-9/13/13 mileage reimb.	31.64
36246	10/16/2013	Kara Newman	Jun 2013 & Aug 2013 planning meetings	200.00
36247	10/16/2013	North Coast Laboratories LTD.	9/30/13 statement	360.00
36248	10/16/2013	Adrienne Nielsen - Petty Cash	reimb. BO petty cash account	63.11
36249	10/16/2013	SWRCB Office of Operator Cert.	WWTP examination - Morrow	140.00
36250	10/16/2013	SHN	8/16/2013 inv no's 80587 & 80590	13,992.93
36251	10/16/2013	Arcata Stationers	10/1/13 statement	48.61
36252	10/18/2013	Amanda E. Arthington	Employee: arthingtona; Pay Date: 10/18/2013	18.28
36253	10/18/2013	John D. Berchtold	Employee: berchtoldj; Pay Date: 10/18/2013	2,314.02
36254	10/18/2013	Glenn R. Bernald	Employee: bernaldg; Pay Date: 10/18/2013	1,348.82
36255	10/18/2013	Harold D. Burris	Employee: burrish; Pay Date: 10/18/2013	1,182.56
36256	10/18/2013	Elizabeth A. Cardoza	Employee: cardozae; Pay Date: 10/18/2013	149.81
36257	10/18/2013	Courtney D. Dexter	Employee: dexterc; Pay Date: 10/18/2013	442.43
36258	10/18/2013	Michael A. Gibson	Employee: gibsonm; Pay Date: 10/18/2013	259.26
36259	10/18/2013	Vivian S. Harp	Employee: harpv; Pay Date: 10/18/2013	96.82
36260	10/18/2013	Vicki L. Hutton	Employee: huttonv; Pay Date: 10/18/2013	1,001.71
36261	10/18/2013	Jacob P. Meng	Employee: mengj; Pay Date: 10/18/2013	595.05
36262	10/18/2013	Logan J. Morrow	Employee: morrowl; Pay Date: 10/18/2013	624.65
36263	10/18/2013	Kara A. Newman	Employee: newmank; Pay Date: 10/18/2013	1,092.56
36264	10/18/2013	Adrienne L. Nielsen	Employee: nielsena; Pay Date: 10/18/2013	1,012.96
36265	10/18/2013	Loren M. Thompson	Employee: thompsonl; Pay Date: 10/18/2013	84.62
36266	10/18/2013	Melissa M. Toledo	Employee: toledom; Pay Date: 10/18/2013	350.72
36267	10/18/2013	Robert Wojciechowski	Employee: wojciechowskir; Pay Date: 10/18/2013	36.54
36268	10/23/2013	AT&T	4-10/4/13 statements	226.91
36269	10/23/2013	Access Humboldt	9/30/13 inv no 691	112.50
36270	10/23/2013	Blue Lake Rancheria	Sep 2013 purchased transportation	2,625.00
36271	10/23/2013	Blue Lake Casino	Sep 2013 fuel bill	725.00
36272	10/23/2013	Blue Lake Casino	WWTP loan pmt due 10/1/13	2,966.94
36273	10/23/2013	Employment Development Dept.	UI, SDI & PIT pmt 10/18/13 PR	642.44
36274	10/23/2013	CA State Disbursement Unit	10/18/13 PR deduction - CS	132.46
36275	10/23/2013	Cal PERS	retirement pmt 10/18/13 PR	3,549.60
36276	10/23/2013	DocuStation	10/9/13 inv no 12176	214.66
36277	10/23/2013	Gabriel Enriquez, DDS, MS	10/17/13 orthodontic pmt - Bernald	474.00
36278	10/23/2013	Freedom Voice	10/1/13 inv no 116889	109.58
36279	10/23/2013	Franklin's Service	9/30/13 statement	38.61
36280	10/23/2013	Humboldt County Sheriff's Dept	Nov 2013 animal shelter services	543.00
36281	10/23/2013	Humboldt County Health Dept.	3-10/1/13 bills Skate Conc/Corp Yard/WWTP	1,241.35
36282	10/23/2013	Terminix International	9/5/13 CH & PH pest control	68.00
36283	10/23/2013	Lawrence G. Johanson, DDS, Inc	dental pmt 10/1/13 Morrow	1,001.50
36284	10/23/2013	Lawrence G. Johanson, DDS, Inc	dental pmt 10/16/13 Hutton	110.00
36285	10/23/2013	Harbor Freight Tools	9/27/13 #609224, 10/10/13 #611520	37.09
36286	10/23/2013	Intedata Systems	9/30/13 statement	420.00
36287	10/23/2013	Kernen Construction	10/7/13 inv no 48393	3,000.00
36288	10/23/2013	Ron and Mary Richard	Richard-loan pmt due 11/1/13	1,258.22
36289	10/23/2013	U. S. Department of Treasury	10/18/13 PR garnishment	110.23
36290	10/23/2013	Planwest Partners, Inc.	Sep 2013 statement	660.00
36291	10/23/2013	Sport & Cycle Inc.	9/24/13 statement	233.09
36292	10/23/2013	NYLEX.Net	10/17/13 inv no 74644	438.98
36293	10/23/2013	Carli French	French 9/28/13 facility rental deposit refund	100.00

Report Total 335,547.27

11a cont.

CITY OF BLUE LAKE
Refund Check Report

2:06:36 PM

10/31/2013

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Account #	Name	Address	Service Address	Refund	Check #
20366401	O'SHELL, KAREN	P. O. BOX 722 BLUE LAKE, CA 95525-0722	521 VANCE LAKE LN #B Deposit Applied: Deposit Interest: Non-Deposit Credits:	105.69 130.00 .00 .00	
40528001	ROSS, BERNARD	P.O. BOX 9451 MARIETTA, GA 30065	630 J ST Deposit Applied: Deposit Interest: Non-Deposit Credits:	25.07 102.00 .00 .00	
00000000	CITY OF BLUE LAKE	P O Box 458 Blue Lake, CA 95525-0458		469.24	
Total number of checks:		3	Total Customer Refund Checks:	130.76	
			Total Of All Deposits Applied:	600.00	
			Total Of All Deposit Interest:	.00	
			Total Reimbursable Non-Deposit Credits Included:	.00	
			Total Of Checks Drawn On Bank:	600.00	
			(Less) - Total Customer Refund Checks:	130.76	
			Charges/Credits Paid By Deposit Acct.:	469.24	

CITY OF BLUE LAKE**Disbursement Report for Month: October Year: 2013****Disbursements other than Checks**

Description	Date	Amount
IRS 941 Disbursements through the Electronic Federal Tax Payment System (EFTPS)	10/04/13	\$4,042.21
IRS 941 Disbursements through the Electronic Federal Tax Payment System (EFTPS)	10/18/13	\$4,057.12
IRS 941 Disbursements through the Electronic Federal Tax Payment System (EFTPS)		
IRS 941 Disbursements through the Electronic Federal Tax Payment System (EFTPS)		
Total :		\$8,099.33

November 5, 2013

The Blue Lake City Council met in regular re-scheduled session at 7:00 p.m. on November 5, 2013. Mayor Sherman Schapiro called the meeting to order. Council Members present were Stephen Kullmann, Kevin Benjamin, Greg Sawatzky, and Lana Manzanita. Others present were City Manager John Berchtold and City Clerk Adrienne Nielsen.

Motion to Approve Agenda

Councilmember Benjamin moved, seconded by Councilmember Sawatzky to approve the agenda after moving item six after item seven. The motion carried unanimously.

Public Input

A citizen residing on K Street addressed the Council with concern of shootings at his property and neighbor's property. He stated that he has reported it to the Sheriff in years past with no resolve. City Manager Berchtold referred him back to the Eureka Sheriff Department.

Proclamation for the Great American Smokeout November 21, 2013 (Action)

Mayor Schapiro read Proclamation for the Great American Smokeout November 21, 2013. Lin Glen stated that the focus is on electric smoking devices and may come back to Council to add e-cigarettes to the City's ordinance. Councilmember Benjamin moved, seconded by Councilmember Sawatzky to approve the proclamation. The motion carried unanimously.

Public Safety Commission Report on Sheriff Contract (Action)

Lin Glen, Public Safety Commission member, spoke to Council about the recommendations from the Public Safety Commission regarding the Sheriff contract. After brief discussion, Councilmember Manzanita moved, seconded by Councilmember Benjamin to approve the recommendations of the Public Safety Commission and direct the City Manager and Mayor Schapiro to commence formal negotiations for a new Sheriff contract. The motion carried unanimously.

Sewer Generator and Automatic Transfer Switch – Monda Way Lift Station (Action)

City Manager Berchtold reported to Council that the Industrial Park tenants transfer sewer through a pump and that backup for that pump is a generator that must be manned at all times. He stated a better solution is a permanent generator and that the City accepted two proposals. Councilmember Kullmann moved, seconded by Councilmember Benjamin to approve the proposal from Brant Electric for the generator replacement cost of \$13,734.00. The motion carried unanimously.

Councilmember Manzanita - Council Discussion on Purchasing Presentation Equipment for City Council Chamber (Discussion)

Council discussed purchasing presentation equipment for the Council chambers. City Manager Berchtold will bring back information on supplies and costs to the Council.

Consent Agenda (Action)

Change Order #2 – Dike Repairs at Sewer Plant

Resignation of April Sousa as Member of Park and Recreation Commission

Councilmember Manzanita moved, seconded by Councilmember Benjamin to approve the Consent Agenda. The motion carried unanimously.

Reports of Council and Staff

Councilmember Manzanita reported that Dell Arte did a great job on the festival, stating it was well planned and well attended. Mayor Schapiro gave Council pins from the City's sister city Parrsboro, Canada. City Manager Berchtold reviewed a department report with Council.

Motion to Adopt Minutes from:

October 17, 2013

October 22, 2013

Councilmember Manzanita moved, seconded by Councilmember Sawatzky to approve the October 17, 2013 minutes with corrections. The motion carried.

Councilmember Manzanita moved, seconded by Councilmember Sawatzky to approve the October 22, 2013 minutes with corrections. The motion carried.

Future Agenda Items

Final SHN report on Mad River Brewery expansion; Request for waiver for ADA funding.

Correspondence

None

Closed Session: Pursuant to Government Code Section 54956.8 – Conference with Negotiator Regarding Property at 150 Taylor Way

Agency Negotiator: City Manager John Berchtold

Negotiating Parties: City of Blue Lake and Custom Stump Grinders

Under Negotiation: Lease Terms

Mayor Schapiro reported out of closed session that no action was taken.

Motion to Adjourn

Councilmember Benjamin moved, seconded by Councilmember Kullmann to adjourn the meeting at 9:00 p.m.

November 7, 2013

The Blue Lake City Council met in special session at 7:00 p.m. on November 7, 2013. Mayor Sherman Schapiro called the meeting to order. Council Members present were Stephen Kullmann, Greg Sawatzky, and Lana Manzanita. Councilmember Benjamin was absent. Others present were City Manager John Berchtold and City Clerk Adrienne Nielsen.

Motion to Approve Agenda

Councilmember Manzanita moved, seconded by Councilmember Sawatzky to approve the agenda. The motion carried unanimously.

Public Input

None

Presentation by Patrick Kaspari, P.E.: County Hazard Mitigation Plan

Patrick Kaspari, P.E., gave a presentation on the County Hazard Mitigation Plan. He also supplied the City with copies of various maps.

Emergency Provider Briefings and/or Updates

Fire Chief Ray Stonebarger and Deputy Scott Aponte spoke briefly and reminded the audience that in the event of an emergency they need to be prepared as much as possible, first responders may take hours and days to respond. Supervisor Mark Lovelace gave a presentation on Next Neighbor. Maureen McGarry spoke about the VCOR/RSVP Program and the need for disaster volunteers. Linda Nelist from the Regional Training Institute gave information on the CERT program.

Motion to Adjourn

Councilmember Sawatzky moved, seconded by Councilmember Kullmann to adjourn the meeting at 8:57 p.m. The motion carried unanimously.